

## **Historic, Archive Document**

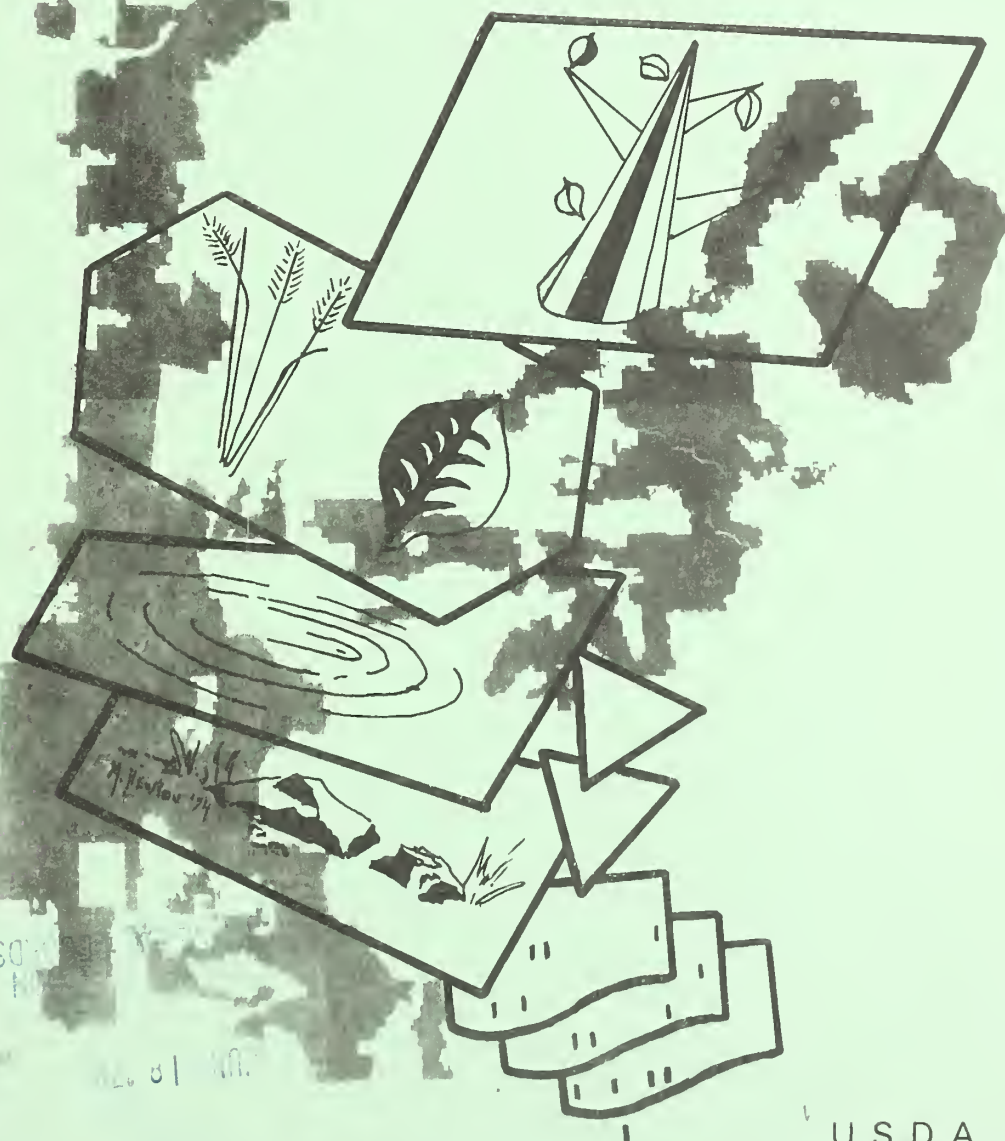
Do not assume content reflects current scientific knowledge, policies, or practices.



Reserve  
OK938  
APUS

# PACIFIC NORTHWEST ECOCLASS IDENTIFICATION:

## CONCEPT AND CODES



U.S.D.A.  
FOREST SERVICE  
PACIFIC NORTHWEST REGION  
R6 Regional Guide 1-3  
JANUARY 1976

673543

2343188

70. PACIFIC NORTHWEST ECOCLASS IDENTIFICATION:  
CONCEPT AND CODES //

Frederick C. Hall  
Principal Plant Ecologist

January 1976

U.S.D.A.  
Forest Service  
Pacific Northwest Region  
R6 Regional Guide 1-3



## INDEX

Introduction . . . . .	1
Ecoclass Identification Principles . . . . .	2
Formations . . . . .	3
Associations . . . . .	4
Administrative . . . . .	4
Coniferous Forest . . . . .	4
Forb (weed) dominated areas . . . . .	5
Grassland Climax vegetation . . . . .	6
Hardwood (broadleaf) woodland or forest . . . . .	6
Meadows dominated by grass-sedge . . . . .	6
Non-vegetated land areas . . . . .	7
Shrubland . . . . .	7
Tundra . . . . .	7
Water covered areas . . . . .	7
Series . . . . .	8
Examples . . . . .	9
Hardwoods . . . . .	9
Conifers . . . . .	10
Non-vegetated . . . . .	10
Community Type/Habitat Type . . . . .	11
Examples . . . . .	12
Relationship of Formations, Associations, Series, and Community Types . . . . .	12
APPENDIX 1 . . . . .	14
Ecoclass Nomenclature - Cross Reference.	
APPENDIX 2 . . . . .	22
Codes for Ecoclass Identification.	





PACIFIC NORTHWEST ECOCLASS IDENTIFICATION:  
CONCEPT AND CODES  
Frederick C. Hall  
1976  
R6 Regional Guide 1-3

Land managing agencies have need for identifying and mapping basic vegetation resources and their characteristics. Nomenclature used in identification should provide for: (1) Flexibility, since most lower level units (Habitat Types/Community Types) are not yet known. (2) Comprehensive description of the community or item. (3) Identification of stable or climax type rather than rapidly changing successional conditions; successional conditions can be identified by timber stand maps depicting size, age, stocking and species composition or range analysis maps depicting range condition, trend, species dominance and degree of use. (4) A means for aggregating similar plant communities or items together (a kind of classification system) to meet needs of the land manager. (5) Computer compatibility. (6) As much direct interpretability as possible (coding that can mean something to the reader).

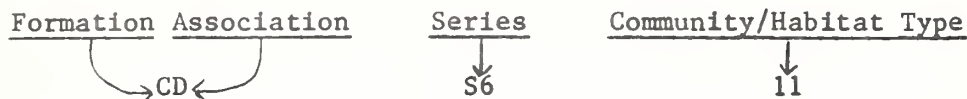
The following alpha-numeric system is designed for computer storage and retrieval of information. A typical "classification" based upon taxonomic similarity is not attempted. Instead, general similarities are used for grouping, such as the coniferous forest Formation which is divided into tree species Associations which are further broken down by kind of ground vegetation Series which are further divided into Community Types by species of dominant ground vegetation. Computer information can be searched for any level or item to form groupings or agglomerations which meet specific kinds of land management needs. The land manager can "classify" any way that meets his immediate objectives.

Ecoclass Identification is designed for compatibility with the TRI System (Total Resource Information System, USFS, Region 6). Identifiers are located in the six digit ecoclass field for each cell. A cell is the basic mapping designation and data storage unit for TRI. When entered in the TRI System, each Ecoclass Identifier will have all other cell information identified with it such as elevation, steepness of slope, type of soil, present stand condition and past management activities. Thus, if a long range planner wishes to know how much land might be suitable for sophisticated logging systems, such as those being tested by FALCON, he can request a list of cells with slopes over 80 percent with any Coniferous Associations except juniper (CJ) and alpine forest parks (CA) which do not have enough timber volume to warrant expensive logging techniques.

Ecoclass Identifiers can index mathematical models of ecosystems. Most models are limited to Community Type/Habitat Type level and deal with empirical formulas predicting productivity and reaction to management. These models can be used in conjunction with Regional computer programs designed around the TRI System. An Ecoclass Identifier not only indexes a mathematical model but also indexes present stand conditions depicted by cell information. Data required by the model are entered from cell information and are used to predict how the stand will grow in the future and how it will respond to selected management treatments.

## Ecoclass Identification Principles

Ecoclass Identifiers are built upon three 2-digit codes representing four levels of information:



In the example above, the formation is Coniferous forest, Association is Douglas-fir, Series is of shrub life form composed of the snowberry-oceanspray dry site group, Community Type is Ponderosa-Douglas-fir/snowberry-oceanspray/pinegrass of the Blue Mountains (R6 Area Guide 3-1: Plant communities of the Blue Mountains in eastern Oregon and southeastern Washington).

Each level of information is discussed in detail later. The levels were chosen to permit mapping at any degree of precision utilizing any information available. Formation indicates the dominant plant lifeform suitable for broad mapping from general information such as that obtainable with earth orbiting satellites. Associations deal with species of dominant plants or kinds of plants; information contained in timber type maps, range type maps, or obtainable from standard aerial photographs. Series deal with dominant ground vegetation under forest stands or species groups of grass, shrub, or meadow vegetation; information requiring low level photographs or field checking. Community Type/Habitat Type requires ecological investigation for characterization and field inspection for identification. It is the most precise ecological identification referring to a specific land area.

Ecoclass Identification not only provides a uniform means for identifying current information for an area but also permits addition of information on the same area as new data is obtained. For example, present timber maps or aerial photographs indicate an area in the H. J. Andrews Experimental Forest is dominated by Douglas-fir with moderately abundant western hemlock understory. The area is coded as CH (C for Coniferous Formation and H for western Hemlock because it is more shade tolerant and will eventually replace fir as the climax or stable dominant). Later, field inspection reveals that ground vegetation is composed of shrubs dominated by rhododendron. This is Series S3 (S for shrub and 3 for the third group of shrubs) so S3 is added to CH to form CH S3 as an ecoclass identification. Finally, research is published showing that of 18 Community Types on the H. J. Andrews Experimental Forest, only four would have the combination of western hemlock and rhododendron. Other ground vegetation species are used to identify each Community Type, and a second field inspection reveals that the mapping unit is western hemlock/rhododendron/salal type and 12 is added to the CH S3 to indicate the kind of Community Type/Habitat Type. The final, and most precise, ecoclass identification is CH S3 12.

Ecoclass Identification is an open-ended system. Additional Formations may be added to the 11 presently identified, some flexibility remains for adding Associations to the present 67, and much expansion is provided for adding Series to the present 550. Each Series can have as many as 100 Community Types of which only 210

have been identified (12/76). In addition, Ecoclass Identification provides for special grouping at the Series level. These groups are identified by the letters X, Y and Z. They indicate that vegetation contained in the group is not similar enough to be accommodated by the normal series. The kinds of vegetation contained in each "X" Series is noted on the list of ecoclass codes (Appendix 2, page 23). For example, CL X2 is a special series grouping used by the Winema National Forest which is dominated by lodgepole pine and contains Community Types CL G3 12, CL M1 11, CL M2 11, and CL S2 14. The group represents the highest producing lodgepole pine sites on the Forest.

Appendix 1 contains a cross reference to Ecoclass Identifiers representing meadows, extremely poor sites, low production forest, coastal sand dune types, and alpine-subalpine areas.

New Ecoclass Identification codes must be assigned by the Regional Office. Computer programs reject all non-approved codes. Codes are listed in appendix 2.

### Formations

Formations primarily represent plant lifeform or dominant ground feature such as rock, water, or buildings. The following codes represent the first letter of each item. An "X" following the first letter indicates that lower categorization of the area has not been made. Both letters must be used with any computer program; entries will be rejected if two characters are not used.

AX = Admistrative sites or Agriculture areas.

CX = Coniferous forest areas, stands dominated by conifers even though hardwoods may be present, climax coniferous forest.

DX = Desert areas of sparse vegetation, drier than sagebrush sites, largely salt desert.

FX = Forland, vegetation dominated by forbs, generally climax forb sites.

GX = Grassland climax areas, dry to moist (forest zone) grassland exclusive of meadows.

HX = Hardwood woodland or forest, areas dominated by tree lifeform hardwoods.

MX = Meadows dominated (or potentially dominated) by grass-sedge plants; dry, moist and wet meadows are included; forb, shrub and tree meadows are noted as Associations.

NX = Non-vegetated and minimally vegetated land areas, those with site potential so low that vegetation generally is less than 20% crown cover.

SX = Shrubland other than desert; includes sagebrush, forest zone shrubland shrub meadows, sub-alpine shrubland.

TX = Tundra (limited application in the Pacific Northwest).

WX = Water covered areas, either totally or primarily; includes impoundments, lakes, rivers, estuaries, oceans.



## Associations

Each Formation is divided into a second level composed of related Associations. The following codes use the first letter of each Association. In general, Associations represent climax or stable vegetation.

### Administrative or Agricultural Areas

- AX = Admistrative or agricultural (no association specified).
- AB = Buildings, structures, roads, campgrounds.
- AC = Cultivated land.
- AG = Grassland, permanent pasture maintained in forest, shrub or desert climates.
- AO = Orchards, maintained exotic forest stands.
- AR = Recreation areas such as parks, golf courses, play areas.

### Coniferous Forest Areas (SAF Forest Cover Types are listed)

- CX = Coniferous forest (no association specified)
- CA = Alpine open forest parks of alpine fir, whitebark pine, mountain hemlock, alpine larch (SAF 205, 206, 207, 208).
- CC = Cedar, western red as the climax dominant; may occur as dominant reproduction under Douglas-fir (SAF 227, 228).
- CD = Douglas-fir as the climax dominant; may occur as dominant reproduction under ponderosa pine, white pine, larch; do not use when reproduction under Douglas-fir is shade tolerant fir or hemlock, use CF, CH, CM, CR, CS, or CW. (SAF 210, 212, 214, 229, 231, 244).
- CE = Alpine fir - Englemann spruce closed forest of commercial quality, not alpine parks; larch or white pine may dominate the overstory, lodgepole may be an important component of the overstory but fir and/or spruce clearly dominate understory (SAF 206).
- CF = Fir, silver and/or noble, upper forest zone conditions: Douglas-fir may dominate the overstory, sugar pine, lodgepole pine or white pine may be conspicuous (SAF 206).
- CH = Hemlock, western as the climax dominant; stand may be currently dominated by Douglas-fir with hemlock reproduction; sitka spruce must be subordinate in overstory or understory, if spruce is dominant in the understory use CS (SAF 224, 225, 226, 227, 230).
- CJ = Juniper dominated stands with little or no ponderosa pine (SAF 238).

- CL = Lodgepole pine dominated stands; lodgepole may be climax or successional, it must compose 100% of the overstory and must have minimal reproduction of other species; shore pine dominated stands (SAF 218).
- CM = Mountain hemlock as the dominant climax species; hemlock may occur as reproduction under Douglas-fir, white pine, sugar pine, lodgepole pine; upper forest zone conditions (SAF 205).
- CP = Ponderosa pine or jeffery pine as climax dominant; not used when regeneration is dominated by firs or lodgepole pine - use CD, CW or CS (SAF 237, 245, 247).
- CR = Red fir (Shasta red) as the climax dominant; stand may be currently dominated by sugar pine, white pine, lodgepole pine, Douglas-fir but red fir dominates regeneration; upper forest conditions (SAF 207).
- CS = Spruce, sitka as the climax dominant, coastal forest conditions; spruce must dominate reproduction (if any) and/or overstory; overstory may be dominated by Douglas-fir or even hemlock (SAF 223, 225).
- CW = White or grand fir as climax dominants; fir must dominate reproduction under ponderosa pine, jeffery pine, Douglas-fir, larch, white pine, sugar pine, clearly replacing lodgepole pine (SAF 211, 213, 214, 229, 237, 243, 244).

Forb (weed) dominated areas, climax type forbland.

- FX = Forbland (no association specified).
- FM = Moist (Mesic) forblands within the forest zone.
- FS = Subalpine or alpine forbland, sometimes eroded sites dominated by forbs.
- FW = Wet forblands, forb dominated meadows.

Grassland climax vegetation (not successional or fire induced sagebrush sites).

- GX = Climax grassland (no association specified).
- GA = Annual grassland sites; may have been perennial grass at one time but currently seem near stable state in annual grass (i.e. California annual grasslands).
- GB = Bunchgrass type grasslands, dry forest zone or steppe vegetation, includes seeded bunchgrass vegetation as permanent range grassland.
- GM = Moist (Mesic) forest zone grassland, interior valley grassland.
- GR = Rhizomatious grass or sedge vegetation.
- GS = Subalpine or alpine grassland of bunch, sedge, or grass dominance.

#### Hardwood (broadleaf) woodland or forest

- HX = Hardwood woodland or forest (No association specified).
- HA = Alder dominated stands, climax or apparently stable with little fir or hemlock reproduction (SAF 221).
- HB = Bigleaf maple dominated stands, climax or apparently stable (SAF none).
- HC = Cottonwood, ash; bottomland, overflow bottomland (SAF 222, 235)
- HL = Liveoak, canyon (*Quercus chrysolepis*) as a tree sized stand (SAF 249). (liveoak as a shrub field is contained in chaparral - SC)
- HO = Oak, Oregon white, California black as climax stand dominant or stable woodland dominant (SAF 233, 246)
- HQ = Quaking aspen climax stands, generally meadow vegetation in Region 6 (SAF 217).
- HT = Tanoak (*Lithocarpus densiflorus*) as a tree sized stand (SAF 241).

#### Meadows dominated by grass-sedge

- MX = Meadow, grass-sedge (no association specified).
- MD = Dry meadow; water table available only part of the growing season.
- MM = Moist meadow; water table available to roots all growing season.
- MS = Sub-alpine or alpine moist to wet meadows as defined above.
- MT = Tule meadow, standing water most or all growing season.
- MW = Wet meadow, soil surface moist to wet all growing season.

#### Non-vegetated and minimally vegetated land areas (site potential supports less than 20% plant crown cover)

- NX = Non-vegetated land, less than 20% crown cover (no association specified).
- NC = Cinders, lava flow, mud flow, glacial wash; continuous disturbance or low site potential precludes enough vegetation to manage.
- NF = Flood plain periodically denuded of vegetation with no foreseeable means of establishing plants.
- NI = Ice fields, glaciers, perennial snow.
- NL = Landform failure, natural slumps, avalanches, avalanche trails with little practical means of establishing vegetative cover.
- NM = Mine tailings dredgings, man-caused disturbance which has little current vegetation potential without treatment.

NR = Rocky land with too little soil (or no soil) for good vegetative cover.

NS = Sand with minimal vegetative cover, shoreline or interior dunes.

NT = Tallus land with minimal vegetative potential.

Shrubland (areas with climax shrubs or apparently stable shrub dominance)

SC = Chaparral, evergreen shrubland within the forest and below the forest.

SD = Dry shrubland, sagebrush types, non-forest zone shrubs; not desert.

SM = Moist (Mesic) shrubland, forest zone shrubs and shrubland.

SS = Sub-alpine or alpine shrubland, heather, heath.

SW = Wet shrubland, shrub meadows, willow, alder.

Tundra - little representation in Pac. NW.; primarily in alpine locations in the north Cascades.

Water covered areas.

WX = Water covered areas (no association specified).

WE = Estuary systems, interface between fresh and saline water; includes tidal exposed areas.

WL = Lakes, ponds, impoundments; perennial or intermittent.

WO = Oceans, seas, saline water bodies of large size; water salinity of lakes and ponds is treated in WL.

WR = Running water bodies, stream, river, creek, ditch; perennial or intermittent.

### Series

The third level of ecoclass identification is called a Series. Any association can be more precisely described by adding a two-character Series code. An Alpha-numeric code is used with Administrative, Coniferous, Hardwood, and Non-vegetated Formations and Associations to indicate what kind of vegetation is present. Other Associations are assigned numeric Series codes. Appendix 2, page 23, contains all current codes. Be sure to use the most current edition. This publication is updated for new codes in January each year.

Designation of a Series must include its Formation and Association - all four characters must be used for proper identification and to prevent a computer error statement.



Each two digit Series code is divided into a general group (1st digit) and a sub-division of the group (2nd digit). This two level stratification accomplishes two things: it permits division of Associations into smaller units based upon existing data even though a detailed ecological study has not been published and it permits an additional level for grouping within the computer.

Three special designators are used with Series. An "X", "Y", or "Z" indicates a series designation in which a special kind of mapping criteria has been established. These are identified by Forest and by the material contained in the mapping designation. For example, Appendix 2, page 23: CW X1 is identified as "Winema, CW S1 12, CW S1 14" meaning that it applies to the Winema NF and is composed of Community Types CW S1 12 (white fir/ceanothus manzanita pumice soil) and CW S1 14 (white fir/ceanothus/pinemat manzanita/princes pine, pumice soil). See page 11 for description of community type.

A 1st character 9 means scabland or very restricted site conditions. However, a 2nd character 9 means a general category such as S9 general shrub understory, G9 general grass understory.

A 1st character B indicates Biscuit-scabland soil/vegetation complex. It typically occurs as small mounds 1 to 3 feet high and 5 to 20 feet diameter of good soil separated by areas of very shallow soil that range from 2 to 30 feet wide between mounds. The "B" also is an indicator of complex micro-topographic conditions which may be used to identify potholes of dry-moist-wet meadow or other conditions.

A list of all first character alphabetic codes used in Series follows:

A = Alpine - subalpine conditions.

B = Biscuit-scabland, "bisected" or complex micro sites.

C = Coniferous dominated vegetation: with Coniferous or Hardwood Associations, indicates an important overstory associated conifer or indicates important small life form conifer understory; with Non-vegetated Associations indicates scattered coniferous species.

F = Forb dominated vegetation: ground vegetation under Coniferous or Hardwood Associations; scattered forbs in Non-vegetated Associations.

G = Grass and grasslike (Sedge) dominated vegetation: ground vegetation under Coniferous and Hardwood Associations, scattered grass in Non-vegetated.

H = Hardwood dominated vegetation: with Coniferous or Hardwood Associations, indicates an important associated overstory hardwood or indicates an important small life form hardwood understory; scattered hardwoods in Non-vegetated Associations (hardwoods are defined by S.A.F. Forest Cover Types and are listed in Timber Inventory Instructions).

M = Meadow vegetation: site conditions where plants are sub-irrigated part or all of the growing season.

N = No vegetation: shifting sand dunes, bare rock areas, etc.

L = Ledge or cliff, steeper than 200% (60°).

T = Tunnel or cave



D = Dump for trash, garbage, etc.

P = Parking area, open storage area, large surfaced areas.

R = Road or improved vehicle travel route.

S = Shrub dominated vegetation: ground vegetation under Coniferous or Hardwood Associations, scattered shrubs in Non-vegetated Associations.

#### Examples:

##### Hardwood

A hardwood Association must be used in conjunction with the alpha/numeric series code, for example:

HO-G2 = Oregon oak or black oak-grass understory, grass series #2:  
Rhizomatous grasses (HO-S9 = oak-shrub general group).

HO-S1 = Oregon oak or black oak-shrub understory, shrub series #1:  
Oregon oak-poison oak (HO-S9 = oak-shrub general group).

Alpha codes should be reasonably intelligible: H means any hardwood, HO means oak hardwoods, HO-G9 means oak-grass community, HO-S9 means oak/shrub community, etc.

##### Conifers

A coniferous association must be used in conjunction with the alpha/numeric code, for example:

CP-G2 = Ponderosa or Jeffrey pine-grass, grass series #2: ponderosa-pinegrass (CP-G9 = pine-grass group).

CP-G6 = Ponderosa or Jeffrey pine-grass, grass series #6: Jeffrey pine-bunchgrass on serpentine-gabbro.

CP-S1 = Ponderosa or Jeffrey pine-shrub, shrub series #1: pine-sagebrush (CP-S9 = pine-shrub group).

CD-S1 = Douglas-fir-shrub, shrub series #1: Douglas-fir-canyon liveoak of SW Oregon (CD-S9 = Douglas-fir-shrub group).

Alpha codes should be reasonably intelligible: C means conifer, CD means Douglas-fir, CD G9 means Douglas-fir-grass community, CH-S9 means western hemlock/shrub community, etc.

##### Non-vegetated

These are areas with no or very scant vegetation (20% or less potential plant crown cover). They are either too disturbed to support a "Climax" kind of vegetation or are so geologically young that insufficient soil has developed to support significant vegetation. N, G, F, and S, series are non-forest; H, C, and A1 series should only be used when there is at least 10% crown cover. However, they are non-productive forest land.

NR N9 = Rock, no vegetation.

NR A2 = Rock, alpine series #2: short sedge scattered among rocks.

Note: H for hardwood and C for conifer vegetation when used with the Non-vegetated Formation indicate productivity less than 20 cu. ft. per acre per year.

Numeric Series code examples are as follows:

GB-16 = Bunchgrass vegetation, series #16: shallow soil, flat slope three-awn - sand dropseed of the Snake River area (GB-19 = three-awn - sand dropseed general group).

MM-14 = Moist meadow, series #14: tufted hairgrass meadows within the forest zone (MM-19 = all tufted hairgrass meadows).

FS-52 = Forbland, subalpine, series #52: fleecflower on eroded granitic soils (FS-59 = all fleecflower communities).

GB-99 = Bunchgrass scabland.

GB-B9 = Bunchgrass biscuit - scabland.

SD-99 = Shrub scabland.

SM-18 = Shrubland, moist (forest zone). Series #18: ninebark shrubland, slopes greater than 60 percent (SM-19 = ninebark shrublands).

DC-22 = Cold desert, series #22: shadscale, pure stands.

WL-45 = Lake-pond series #45: ice cover 90-150 days, over 500 acres.

AO-13 = Agricultural, orchard, series #13: nut trees.

#### Community Type/Habitat Type

The fourth level of ecoclass identifiers can be either the community type or habitat type. These types describe certain specific plant or land conditions. They are sometimes tied to specific geographic locations. A Habitat Type is defined as a climax plant community which is in balance with its soil, climate, and topographic location. It is the basic ecological unit used by Daubenmire for classifying vegetation in northern Idaho and eastern Washington. He describes each Habitat Type according to the vegetation. A Community Type is neither restricted to climax vegetation nor is it limited in description to vegetation. It is defined as a soil-vegetation "type" which is significantly different in its management characteristics from other kinds of soil-vegetation "types". It can encompass successional plant communities like lodgepole pine-big huckleberry of the Blue Mountains (CL S5 11, R6 Area Guide 3-1) which is caused by conflagration fire in the white fir-big huckleberry climax type (CW S2 11, R6 Area Guide 3-1). Lodgepole-huckleberry may be found in nearly pure pine

and it is easier to maintain lodgepole than it is to convert to white fir with logging, therefore, land management implications are more tied to lodgepole than they are to white fir. It is given equal status with "Habitat Type". Another example is division of bunchgrass types. Instead of describing vegetation floristics, five Community Types are classified on the basis of soil depth and steepness of slope: scablands have soil less than 8 inches deep and can not be revegetated; another two types are divided by soil 8 to 14 inches deep (revegetation is tentative) and slopes greater than or less than 25% (the point where revegetation becomes impossible and the slope steepness where cow grazing becomes difficult); a second pair of types have soils greater than 14 inches (easy revegetation) and slopes greater or less than 25%.

Wherever possible, the 2 digit Community Type code is divided into a primary "family" of Community Types (1st digit) and a specific kind of Community Type (2nd digit). For example, estuarine systems developed in sand dune geology are divided into several kinds of Community Types as follows: WE 13 19 = Water, Estuary, 1 = bar formation, 3 = conditions where fresh and saline water are well mixed, 19 = general category for tidal exposed sandy bottom. On the Oregon Dunes National Recreation Area. WE 13 11 means tidal exposed sandy bottom active flood plain (Appendix 2). Other general kinds of Community Types are WE 13 29 - Estuary, bar built, well mixed saline, tidal exposed clay bottom and WE 13 39 = Estuary, bar built, well mixed saline tidal exposed stony bottom.

All Community Type/Habitat Type codes must be preceded by the proper Formation/Association and Series codes.

All Community Type/Habitat Type designators are identified in one of two ways. After publication of results, the publication reference is cited. These will be R6 Area Guide- publications such as R6 Area Guide 3-1 = (Planning Area 3) Plant Communities of the Blue Mountains in Eastern Oregon and Southeast Washington, 1973, by Frederick C. Hall. All R-6 publications are available from the Regional Office. Other community types which have been designated but which are not in easily available published form are identified by the forest or area in which they apply. Appendix 2 lists "pumice" relating to the pumice soil zone of the Deschutes-Winema-Fremont Forests, "Winema" relating to special mapping types used for timber inventory, and "Siuslaw" relating to the Oregon Dunes National Recreation Area inventory.

Each community type, providing it is cited and does not end with a "9" (i.e., WE 13 39), is described in detail by a publication. It generally has a family of prediction equations (termed a mathematical model) which may be used to predict timber production, herbage production, tree, shrub, and herbaceous cover, interaction of tree-shrub-herbage cover, reaction to treatment, and selected other criteria.

#### Examples:

CA G1 11 = Coniferous vegetation, Alpine conditions of alpine fir, whitebark pine, mountain hemlock open parks; Grass Series #1 (sedge dominated vegetation); Community Type #11: Sub-alpine fir - whitebark pine - sedge of the Blue Mountains, described in the publication R6 Area Guide 3-1, SAF Type 208.

Coded as: CA G1 11 Sub-alpine fir-whitebark pine/elk sedge, R6 AG 3-1 (SAF 208).

GB 49 13 = Grass vegetation, Bunchgrass type vegetation; Series # 49 (wheatgrass dominated vegetation); Community Type #13: bunchgrass growing on shallow soil (8-14 inches deep) on steep slopes (over 25%) in the Blue Mountains, described in the publication R6 Area Guide 3-1.

Coded as: GB 49 13 Bunchgrass, shallow soil, steep slopes, R6 AG 3-1.

GR 82 12 = Grass vegetation, Rhizomatious grass or sedge; Series #82 (89 is beachgrass general group so any 80 Series is related to beachgrass, # 82 is beachgrass growing on hummocks on the land side of coastal foredunes); Community Type #12: occasionally wet hummocks which are unstable due to partial cover of beachgrass which also has coastal lupine growing with it, along the Oregon coast, described in in-service material on the Siuslaw NF.

Coded as: GR 82 12 Hummocks, occ. wet, unstable: open beachgrass/lupine, Coastal.

NC S1 11 = Non-vegetated or minimally vegetated areas with less than 20% plant crown cover potential, Cinder, lava flow, mud flow, or glacial wash; Series with Shrubs dominating what little vegetation is present, Series #1 (vine maple dominant shrub); Community Type #11: Lava flows with vine maple and lace lip-fern colonizing occasional soil pockets on the Willamette NF, described in the Forest's soil-vegetation mapping guides.

Coded as: NC S1 11 Lava flows - Cheilanthes/vine maple, Willamette.

SD 33 11 = Shrub vegetation, Dry shrubland dominated by species not restricted to the Forest zone; Series #33 (Series #39 is the general category of bitterbrush dominated shrubland, #33 is bitterbrush on coarse textured soils easily eroded); Community Type #11: bitterbrush/needlegrass on pumice soils in the Deschutes-Winema-Fremont area.

Coded as: SD 33 11 Bitterbrush/needlegrass, pumice.

#### Relationship of Formations, Associations, Series, and Community Types

The following page contains a diagram of relationships between each level of identification. Use of the total identification nomenclature permits grouping or splitting any plant community type into any group. This facilitates computer use of the nomenclature as well as lending understanding to map unit designations and tables summarizing data based upon plant community types.



Formation/Association	Series	Community Types
CP Ponderosa CX Coniferous forest CD Douglas-fir	CP-G6 Jeffrey pine/serpentine	CP-G6-11 Jeffrey pine/needlegrass, serpentine
	CP-G1 Ponderosa pine/bunchgrass	CP-G1-12 Ponderosa/fescue-Ross sedge, ash soil
	CP-S1 Ponderosa/sagebrush	CP-S1-10 Ponderosa/sagebrush/wheatgrass-bluegrass
		CP-S1-11 Ponderosa/sagebrush/fescue-needlegrass, pumice.
		CP-S1-12 Ponderosa/sagebrush/needlegrass, pumice
	CP-S2 Ponderosa/bitterbrush	CP-S2-13 Ponderosa/bitterbrush/wheatgrass-bluegrass
		CP-S2-14 Ponderosa/bitterbrush/fescue-elk sedge
	CD-H1 Douglas-fir/tanoak	CD-H1-11 Douglas-fir/tanoak/liveoak, steep rock mulch
		CD-H1-12 Douglas-fir/tanoak/bedstraw, mudstone
		CD-H1-13 Douglas-fir/tanoak/honeysuckle
CD Douglas-fir	CD-H3 Douglas-fir/oak	CD-H3-11 Douglas-fir/kellogg oak/bracken fern
	CD-S1 Douglas-fir/liveoak	CD-S1-11 Douglas-fir/liveoak/honeysuckle
	CD-S2 Douglas-fir/vine maple-oceanspray	CD-S2-36 Douglas-fir/vinemaple salal-Oregon grape
	CD-C1 Douglas-fir/cedar-yew	CD-C1-18 Douglas-fir/yew/big huckleberry/pyrola



APPENDIX 1

Ecoclass Nomenclature - Cross Reference





ECOCCLASS NOMENCLATURE - CROSS REFERENCE

Meadow Vegetation

MD	dry meadow
MM	moist meadow
MS	subalpine, alpine moist and wet meadows
MT	tule meadow
MW	wet meadow
CC M1	western red cedar/skunk cabbage
CC M2	western red cedar/sedge
CC M3	western red cedar-lodgepole/laborador tea (coastal)
CH M1	western hemlock/skunk cabbage
CL M1	lodgepole pine/tall sedge-grass
CL M2	lodgepole pine/dwarf shrub-grass
CL M3	lodgepole pine/low huckleberry-grass
CP M1	ponderosa pine/wildrye-bluegrass
CS M1	Sitka spruce/willow-waxmyrtle
FW 19	cowparsnip wet forbland
FW 29	cottonsedge-sphagnum-sedge wet meadow
FW 39	camas moist to wet meadow
HA M1	red alder overflow bottomlands
HA M2	white alder overflow bottomland
HB M1	bigleaf maple overflow bottomlands
HQ M1	quaking aspen/bluegrass moist meadow
HQ M2	quaking aspen/tall sedge moist meadow
HQ M3	quaking aspen/short sedge moist meadow
SW 19	willow meadows
SW 29	alder meadows
SW 39	hawthorn meadows
SW 89	coastal shrub meadows
WE 13 59	estuarian vegetated flats (Ellgrass meadows) exposed at low tide

Extremely poor sites (scabland, serpentine, etc.)

NX	all N (non-vegetated) types
CJ S8	juniper/rigid sage scabland
CL C2	Douglas-fir - lodgepole pine, serpentine
CP G6	jeffery pine on serpentine, gabbro

CP G6 jeffery pine on serpentine, gabbro  
 FM 99 forb scabland (buckwheat, etc.)  
 GB 99 bunchgrass scabland (bluegrass-oatgrass)  
 GS 49 subalpine - alpine short, thin sedge  
 SD 91 rigid sage scabland  
 SD 92 low sage scabland  
 SD 99 dry shrub scabland  
 SM 99 moist (mesic) shrub scabland

Low productivity forest types (less than 25 cu. ft. per acre per year)

CA C1 alpine larch  
 CA F2 sub-alpine fir/fleeceflower  
 CA G1 sub-alpine fir/sedge  
 CA S1 sub-alpine fir/alpine sagebrush  
 CA S2 subalpine fir/heather-heath  
 CA S4 subalpine fir/mountain juniper-pinemat manzanita  
 CD G3 Douglas-fir/bunchgrass  
 CJ all juniper types  
 CL C1 lodgepole pine-whitebark pine, alpine  
 CL C2 lodgepole pine-Douglas fir on serpentine  
 CL G3 lodgepole pine/needlegrass basins, pumice  
 CL S1 lodgepole pine/big sagebrush  
 CL S3 lodgepole pine/pinemat manzanita/needlegrass, pumice  
 CL S8 31 Rolling dune: open lodgepole/kinnikinic-hairy manzanita  
 CP G1 ponderosa pine/bunchgrass, non-pumice  
 CP G6 jeffery pine/grass, serpentine  
 CP S1 ponderosa pine/big sagebrush  
 HL canyon liveoak  
 HO G1 Oregon or black oak/bunchgrass  
 HO G3 Oregon or black oak/annual grass  
 HO S1 Oregon oak/poison oak  
 HO S6 Oregon or black oak/bitterbrush  
 NC C1 cinders, glacial outwash with scattered subalpine fir, whitebark pine  
 NC C2 cinders, glacial outwash with scattered mountain hemlock  
 NC C3 lava flow, glacial outwash with scattered Douglas fir-true firs  
 NC C4 lava flow, mud flow with scattered Douglas-fir and oak  
 NC C5 cinders, lavas with lodgepole pine  
 NC C6 glacial, alluvium with lodgepole pine  
 NC H1 mud, glacial flows with alder, willow, aspen

NM C1 mine tailings, dredgings with scattered lodgepole pine  
 NM H1 mine tailings, dredgings with scattered cottonwood  
 NM H2 mine tailings, dredgings with scattered aspen

NR A1 alpine rocky land with scattered whitebark pine, alpine fir, Mtn hemlock

NT A1 alpine tallus slopes with scattered whitebark pine, alpine fir, Mtn hemlock  
 NT H1 talus slopes with scattered bigleaf maple  
 NT H2 tallus slopes with scattered Oregon or black oak

#### Coastal sand dune conditions

CL S8 11 Deflation plain: lodgepole/salal-evergrn huckleberry/sedge  
 CL S8 12 Floodplain dune: lodgepole/rhododendron/evergrn huckleberry  
 CL S8 21 Stabilized dune: lodgepole/rhododendron/evergrn huckleberry  
 CL S8 22 Eroding dune: lodgepole/rhododendron/evergrn huckleberry  
 CL S8 23 Dune slip face: lodgepole/rhododendron/evergrn huckleberry  
 CL S8 31 Rolling dune: open lodgepole/kinnikinic-hairy manzanita

CS S4 11 Stabilized dune: sitka spruce-D fir/rhododendron-evergrn, huck.  
 CS S4 12 Flood plain: sitka spruce-lodgepole/W. hemlock/rhododendron  
 CS S4 21 Sandy, steep slope; sitka spruce-D.fir/rhododendron-evergrn huck  
 CS S4 22 Sandy, gentle slope: sitka spruce-D.fir/rhododendron-evergrn huck

GR 81 Foredune (sandy dune geology)  
 GR 81 11 Foredune: beachgrass, coastal  
 GR 82 Hummocks (sand dune geology)  
 GR 82 11 Hummocks, occ. wet: dense beachgrass/lupine/bluegrass, coastal  
 GR 82 12 Hummocks, occ. wet, unstable: open beachgrass/lupine, coastal  
 GR 82 13 Hummocks, dry, eroding: beachgrass/lupine/bluegrass, coastal  
 GE 83 Dune slip face: beachgrass  
 GR 83 11 Dune slip face: beachgrass, stabilized, coastal

MM 98 11 Deflation plain potholes: red fescue--brown rush--slough sedge

MT 81 11 Coastal: cat-tail-bullrush/water lilly, water weed

MW 81 11 Coastal valley fill: slough sedge/skunk cabbage, red current  
 MW 81 12 Coastal: slough sedge/water lilly-pond weed, cat-tail

NS G8 Coastal sand dune, rolling, partial beachgrass stability  
 NS N1 11 Pacific coast beach, Siuslaw NF  
 NS N2 Transverse ridge sand dune system  
 NS N2 11 Transverse ridge, occ. wet, winter stable, coastal  
 NS N2 12 Transverse ridge, dry, moving sand, coastal  
 NS N3 Oblique ridge sand dune system  
 NS N3 11 Oblique ridge, fore slope moving sand, coastal  
 NS N3 12 Oblique ridge, precipitation ridge, active sand  
 NS N3 13 Oblique ridge, precipitation ridge, active, threatening veget.  
 NS N4 Parabola sand dune system  
 NS N9 Open sand of any dunal character

SW 81	Coastal shrubs in a deflation plain
SW 81 11	Deflation plain, high water: willow-was myrtle, salal, pine
SW 81 12	Deflation plain, high water; salal-evergrn huckleberry, willow
WE 13 11	Active flood plain, stream deposits, tidal flooding, Siuslaw
WE 13 19	Estuarian, exposed sandy bottom at low tide
WE 13 59	Tidal salt marsh, ellgrass, exposed at low tide
WL	Lakes and ponds
WR	Running water - rivers and streams

#### Alpine and Sub-alpine

CA	All alpine fir, whitebark pine, mountain hemlock open parks (SAF 205-208)
FS	All subalpine forb fields, alpine forb fields.
GS	All subalpine or alpine grassland.
MS	All subalpine or alpine moist to wet meadows
NI	Ice fields, glaciers
NC A9	Non-vegetated cinders, lava fields in alpine conditions (NC A1, A2, A3, A4).
NC C1	Non-vegetated cinders, lava fields with alpine fir, whitebark pine lodgepole pine.
NT A9	Tallus slopes in alpine or sub-alpine locations (NT A1, A2, A3, A4).
SS	All subalpine and alpine shrubland.
WL 69	All WL types - lakes with ice cover longer than 210 days.
WR 19	All WR types - rivers with mean annual temperature less than 45 F.

#### U.S. Forest Service Standard Range Types

1 (Grasslands)	GX	all grassland designations
2 (Meadows)	MX	all meadow designations
	FW	all forb dominated wetlands
	SW	all shrub dominated wetlands
3 (Forbs)	FX	all forb designations
4 (Sagebrush)	SD 19	low sagebrush
	SD 29	big sagebrush
	SD 79	rabbitbrush
	SD 99	scabland sagebrush
	SD B9	biscuit-scabland sagebrush
	SS 49	sub-alpine sagebrush

5 (browse)	SD 39	bitterbrush
	SD 49	mountain mahogany
	SD 89	snowberry-cherry-rose
	SM 39	cherry-mockorange-serviceberry-rose-oceanspray
6 (coniferous)	CA	Alpine fir, whitebark pine open parks
	CD G9	Douglas-fir with grass dominated ground vegetation
	CD S4	Douglas-fir with ceanothus-manzanita
	CD S6	Douglas-fir with spirea-snowberry
	CD S7	Douglas-fir with ninebark
	CL G9	Lodgepole pine with grass dominated ground vegetation
	CL M9	Lodgepole pine meadows
	CL S1	Lodgepole pine with sagebrush
	CL S2	Lodgepole pine with bitterbrush
	CP	All ponderosa pine or jeffery pine
	CW G1	White(grand) fir with pinegrass-sedge
7 (non-range coniferous)	CX	types not listed above or under juniper
8 (rock)	NX	Non-vegetated land
9 (juniper)	CJ	All juniper
10 (broadleaved)	HX	All hardwood

#### Society of American Foresters Cover Types

205	CM	Mountain hemlock
206	CE	Alpine fir-engelmann spruce closed forest, not parks
	CA	Alpine fir, mountain hemlock, whitebark pine open parks
207	CR	Red fir (shasta red)
208	CA	Alpine fir, whitebark pine, mountain hemlock open parks
209	none	
210	CD	Douglas-fir
211	CW	White(grand) fir
212	CD	Douglas-fir
	CW	White(grand) fir
213	CW	White(grand) fir

214	CD CW	Douglas-fir White(grand) fir
215	CW	White(grand) fir
216	none	
217	HQ	Quaking aspen
218	CL	Lodgepole pine
219	none	
220	none	
221	HA	Alder
222	HC	Cottonwood-ash, bottomland
223	CS	Sitka spruce
224	CH	Western hemlock
225	CH CS	Western hemlock Sitka spruce
226	CF	Silver fir, noble fir
227	CC CH	Western red cedar Western Hemlock
228	CC	Western red cedar
229	CD	Douglas-fir
230	CH	Western hemlock
231	CD C1 CH C1	Douglas-fir-port orford cedar Western hemlock - port orford cedar
232	none	
233	HO	Oregon white, California black oak
234	HM HT	Madrona Tanoak
235	HC	Cottonwood, ash bottomland
236	none	
237	CP	Ponderosa pine, jeffrey pine

238	CJ	Juniper
239	none	
240	none	
241	none	
242	none	
243	CP	Ponderosa pine, jeffery pine
	CD C2	Douglas-fir, sugar pine
244	CD	Douglas-fir
245	CP	Ponderosa pine, jeffery pine
246	HO	Oregon white oak, California black oak
247	CP	Ponderosa pine, jeffery pine
248	none	
249	HL	Canyon liveoak
250	none	





## APPENDIX 2

Codes for Pacific Northwest Ecoclass Identification



# CODES FOR PACIFIC NORTHWEST ECOCLASS IDENTIFICATION

## Index

A	Administrative or agricultural . . . . .	27
AB	Buildings, structures, roads	
AC	Cultivated land	
AD	Dump for trash, garbage, etc.	
AG	Grassland, permanent pasture	
AO	Orchards	
AR	Recreation areas, parks, play areas, golf courses	
C	Coniferous forest . . . . .	27
CA	Alpine fir, mountain hemlock, whitebark pine open parks	
CC	Cedar, western red	
CD	Douglas-fir	
CE	Alpine fir - engelmann spruce closed forest (not parks) . . . .	28
CF	Fir, silver and noble . . . . .	29
CH	Hemlock, western	
CJ	Juniper, pinion pine	
CL	Lodgepole pine, shore pine (climax or stable seral) . . . . .	30
CM	Mountain hemlock	
CP	Ponderosa pine, jeffery pine . . . . .	32
CR	Red fir (shasta red) . . . . .	33
CS	Spruce, sitka	
CW	White fir, grand fir	
D	Desert . . . . .	34
DC	Cold desert	
DW	Warm desert	
F	Forbland . . . . .	34
FM	Moist (mesic) forblands in the forest zone	
FS	Subalpine forb fields, alpine forb fields . . . . .	35
FW	Wet forblands, forb meadows	
G	Grassland . . . . .	35
GA	Annual grass vegetation	
GB	Bunchgrass vegetation	
GM	Moist (mesic) grassland within the forest zone . . . . .	36
GR	Rhizomatious grass or sedge vegetation	
GS	Subalpine or alpine grassland	
H	Hardwood forest . . . . .	36
HA	Alder	
HB	Bigleaf maple	
HC	Cottonwood, ash, bottom land, overflow bottom land . . . . .	37
HL	Liveoak canyon	
HM	Madrone	
HO	Oak, Oregon white, California black	
HQ	Quaking aspen	
HT	Tanoak	

M	Meadow, grass-sedge . . . . .	37
MD	Dry meadow (water table available part of the season)	
MM	Moist meadow (water table available all growing season)	
MS	Subalpine/alpine moist to wet meadows	
MT	Tule meadow (standing water most or all growing season)	
MW	Wet meadow (surface moist or wet all growing season)	
N	Non-vegetated land less than 20% vegetation . . . . .	37
NC	Cinders, Lava flow, mud flow, glacial wash	
NF	Flood plain periodically denuded of vegetation	
NI	Ice fields, glaciers, ice caves	
NL	Landform failure (natural slumps, avalanches)	
NM	Mine tailings, dredgings, man-caused minimal vegetation potential	
NR	Rocky land with minimal vegetation potential	
NS	Sand with minimal vegetation, shoreline or interior	
NT	Talus land with minimal vegetation potential . . . . .	39
S	Shrubland . . . . .	40
SC	Chaparral, evergreen shrubland, forest zone and non-forest	
SD	Dry shrubland, sagebrush, non-forest zone shrubland not desert	
SM	Moist (mesic) shrubland, forest zone shrubs and shrubland . . . .	41
SW	Wet shrublands, shrub meadows	
TX	Tundra . . . . .	41
W	Water covered areas . . . . .	41
WE	Estuary systems - interface between fresh and saline water	
WL	Lake, pond, impoundment, non-moving water . . . . .	42
WO	Oceans, seas, saline water bodies . . . . .	42
WR	Running water - stream, river, creek, ditch	

## CODES FOR PACIFIC NORTHWEST ECOCLASS IDENTIFICATION

EFFECTIVE DATE: January, 1976

This publication is updated in January each year. Be sure you are using the current years' edition.

Complete explanation of Ecoclass Identification is contained in R6 Regional Guide 1-1.

Listings are as follows:

<u>Identifier</u>	<u>Description of the Identifier</u>
CA G1 11	Sub-alpine fir-whitebark pine/elk sedge, R6 AG 3-1 (SAF 208)

Identifier is divided into three 2 digit units:

<u>Formation</u>	<u>Association</u>	<u>Series</u>	<u>Community/Habitat type</u>
			
CA		G1	11

Formation codes represent the first letter of key words such as "A" for administrative, "C" for conifer, "M" for meadow, "S" for shrub, "G" for grass (see Index).

Association codes also represent the first letter of key words such as "A" for alpine, "D" for Douglas-fir, "H" for hemlock (western), "M" for mountain hemlock, "B" for bunch growth habit of grasses. The association code letter must be preceded by the appropriate formation code letter. (see Index).

Series codes may be alpha-numeric or numeric. Alpha codes represent the first letter of key words such as "F" for forb, "G" for grass, "S" for shrub. Numeric codes specify a general grouping for forbs, grasses or shrubs. Pure numeric codes must be identified by their descriptions. Series codes must be preceded by a formation/association code.

Some series are noted by "X", "Y", or "Z". These denote special kinds of ecological units which are limited to the National Forest cited. A description of the ecological unit is given. For example:

CE X1 MALHEUR(04) 2A: SLOPE LESS 30%; CE S3 11, CE S4 11

means ecological unit CE X1 is limited to the Malheur National Forest, forest code 2A, designates slopes less than 30 percent and is made up of community

types CE S3 11 (Sub-alpine fir/big huckleberry) and CE S4 11 (Sub-alpine fir/grouse huckleberry).

Community Type codes are all numeric. They identify precise ecological units which are described in various documents which may or may not have been formally published.

They are as follows:

- R6 AG 3-1: R6 Area Guide 3-1, Plant Communities of the Blue Mountains in Eastern Oregon and Southeastern Washington. Frederick C. Hall. 1973, U.S.D.A., Forest Service, Portland, OR
- R6 AG 4-2: R6 Area Guide 4-2, Plant Communities of the Central Oregon Pumice Zone. Leonard A. Volland. 1976, U.S.D.A., Forest Service, Portland, OR
- Daubenmire '68: Daubenmire, R. and Jean B. Daubenmire. 1968. Forest Vegetation of Eastern Washington and Northern Idaho. Wash. Agr. Exp. Stat. Tech. Bull. 60, W.S.U., Pullman
- Daubenmire '70: Daubenmire, R. 1970. Steppe Vegetation of Washington. Wash. Agr. Exp. Stat. Tech. Bull. 62, W.S.U., Pullman
- Willamette: Soil Inventory Mapping Units, Willamette N.F., Eugene, OR
- Siuslaw: Siuslaw N.F. inventory study of the Dunes National Recreation Area. Corvallis, OR
- SAF types (Society of American Foresters) are listed for forest types.
- Driscoll, '64: Driscoll, Richard S. 1964. Vegetation-Soil Units in the Central Oregon Juniper Zone. U.S.D.A., Forest Service, Pac. N.W. For. & Range Exp. Stat. Res. Pap. PNW-19.

A ADMINISTRATIVE OR AGRICULTURAL (SEE AX)

AB BUILDINGS, STRUCTURES, ROADS  
 AB C9 CAMPGROUND, DEVELOPED  
 AB P9 PARKING AREA  
 AB R6 ROAD, BOAT LAUNCH AREA  
 AC CULTIVATED LAND  
 AD DUMP FOR TRASH, GARBAGE, ETC  
 AD G9 GARBAGE DUMP  
 AD T9 TRASH DUMP, REFUSE DUMP  
 AG GRASSLAND, PERMANENT PASTURE  
 AU ORCHARDS  
 AR RECREATION AREAS, PARKS, PLAY AREAS, GOLF COURSES  
 AX ADMINISTRATIVE OR AGRICULTURAL (NO ASSOCIATION SPECIFIED)

C CONIFEROUS FOREST (SEE CX)

CA ALPINE FIR, MTN. HEMLOCK, WHITEBARK PINE OPEN PARKS (205-208)  
 CA C1 ALPINE LARCH-ALPINE FIR, MTN. HEMLOCK (SAF 205-208)  
 CA C2 ALASKA CEDAR-ALPINE FIR, MTN. HEMLOCK (SAF 205-208)  
 CA C9 ALPINE FIR, HEMLOCK, PINE OPEN PARKS WITH SPECIAL CONIFERS  
 CA F1 ALPINE PARK-BEARGRASS (XEROPHYLLUM)  
 CA F2 ALPINE PARK-ELECFLOWER (POLYGONUM PHYTOPACCAEFLIUM)  
 CA F9 ALPINE FIR, HEMLOCK, PINE OPEN PARKS WITH FORB GROUND VEGET.  
 CA G1 ALPINE PARK-SEDE (CAREX, JUNCUS)  
 CA G1 11 SUB-ALPINE FIR-WHITEBARK PINE/ELK SEDE, R6 AG 3-1 (SAF 208)  
 CA G2 ALPINE PARK-GREEN FESCUE (FESTUCA VIRIDULA)  
 CA G3 ALPINE PARK-WOODRUSH (LUZULA)  
 CA G9 ALPINE FIR, HEMLOCK, PINE OPEN PARKS WITH GRASS GROUND VEGET.  
 CA S1 ALPINE PARK-SAGEBRUSH (ARTEMISIA TRIDENTATA VAR. VASEYANA)  
 CA S2 ALPINE PARK-HEATHER-HEATH (CASSIOPE, KALMIA, PHYLLODOCE)  
 CA S3 ALPINE PARK-GROUSE HUCKLEBERRY (VACCINIUM SCOPARIUM)  
 CA S4 ALPINE PARK-MOUNTAIN JUNIFER-PINEMAT MANZANITA  
 CA S9 ALPINE FIR, HEMLOCK, PINE OPEN PARKS WITH SHRUB GROUND VEGET.  
  
 CC CEDAR, WESTERN RED (SAF 227,228)  
 CC C1 RED CEDAR-YEW (TAXUS)  
 CC C9 RED CEDAR WITH ADDITIONAL IMPORTANT CONIFEROUS SPECIES  
 CC F1 RED CEDAR/LADYFERN (ATHYRIUM)  
 CC F1 21 RED CEDAR/LADYFERN HABITAT TYPE, DAUBENMIRE '68 (SAF 228)  
 CC F2 RED CEDAR/HEADLILLY (CLINTONIA)  
 CC F9 RED CEDAR WITH FORB DOMINATED GROUND VEGETATION  
 CC M1 RED CEDAR/SKUNK CABBAGE (LYSICHITUM)  
 CC M2 RED CEDAR/SEDE (CAREX)  
 CC M3 RED CEDAR-COASTAL LODGEPOLE, LABRADOR TEA  
 CC M9 RED CEDAR MEADOWS (MOIST TO WET SOIL)  
 CC S1 RED CEDAR/SALMONBERRY, THIMBLEBERRY  
 CC S2 RED CEDAR/DEVILSCLUB (OPLOPANAX)  
 CC S2 21 RED CEDAR/DEVILSCLUB HABITAT TYPE, DAUBENMIRE '68 (SAF 228)  
 CC S3 RED CEDAR/PACHISTIMA-HUCKLEBERRY  
 CC S3 21 RED CEDAR/PACHISTIMA HABITAT TYPE, DAUBENMIRE '68 (SAF 228)  
 CC S4 RED CEDAR/SITKA ALDER (ALNUS SINUATA)  
 CC S9 RED CEDAR WITH SHRUB DOMINATED GROUND VEGETATION (SAF 228)  
  
 CD DOUGLAS-FIR (SAF 210,212,214,231,244)  
 CD C1 DOUGLAS-FIR-PORT ORFORD CEDAR/YEW SAF 231  
 CD C2 DOUGLAS-FIR-SUGAR PINE, S. W. ORE. (SAF 243,244)



CD C3 DOUGLAS-FIR-INCENSE CEDAR, S.W. ORE. (SAF 244)  
 CD C4 DOUGLAS-FIR-GRAND FIR (SAF 210)  
 CD C5 DOUGLAS-FIR-PONDEROSA PINE, SOUTHERN OREGON (SAF 244)  
 CD C9 DOUGLAS-FIR WITH IMPORTANT ASSOCIATED CONIFER(S)  
 CD F1 DOUGLAS-FIR/BEARGRASS (XEROPHYLLUM)  
 CD F2 DOUGLAS-FIR/TWINFLOWER (LINNAEA)  
 CD F9 DOUGLAS-FIR WITH FORB DOMINATED GROUND VEGETATION  
 CD G1 DOUGLAS-FIR/PINEGRASS-ELK SEDGE (CALAMAGROSTIS, CAREX GEYERI)  
 CD G1 11 PONDEROSA-D. FIR/ELK SEDGE, R6 AG 3-1 (SAF 237,210)  
 CD G1 21 DOUGLAS-FIR/PINEGRASS HABITAT TYPE, DAUBENMIRE '68 (SAF 237, 210)  
 CD G1 22 DOUGLAS-FIR/PINEGRASS-BEARBERRY H. T. PHASE, DAUB. '68 (SAF 237)  
 CD G2 DOUGLAS-FIR/BLUE WILDRYE (ELYMUS GLAUCUS)  
 CD G3 DOUGLAS-FIR/HUNCHGRASS (FESTUCA, AGROPYRON)  
 CD G8 DOUGLAS-FIR/SUB-ALPINE SEDGE (CAREX)  
 CD G9 DOUGLAS-FIR WITH GRASS DOMINATED GROUND VEGETATION  
 CD H1 DOUGLAS-FIR/TAHOAK (LITHOCARPUS) (SAF 234)  
 CD H2 DOUGLAS-FIR/MAHURNE (ARBUTUS) (SAF 234)  
 CD H3 DOUGLAS-FIR/WHITE OAK (QUERCUS) (SAF 233,246)  
 CD H4 DOUGLAS-FIR/BIGLEAF MAPLE (ACER MACROPHYLLUM) (SAF 249)  
 CD H5 DOUGLAS-FIR/CHINKAPIN (CASTANOPSIS)  
 CD H6 DOUGLAS-FIR/CALIFORNIA-LAUREL (UMBELLULARIA)  
 CD H9 DOUGLAS-FIR WITH IMPORTANT ASSOCIATED HARDWOOD TREE(S) (SAF 249)  
 CD S1 DOUGLAS-FIR/CANYON LIVEOAK (QUERCUS CHRYSOLEPIS) (SAF 249)  
 CD S2 DOUGLAS-FIR/OCEANSPRAY-VINE MAPLE-SALAL  
 CD S3 DOUGLAS-FIR/RHODODENDRON-HAZEL  
 CD S3 11 DOUGLAS-FIR-W. HEMLOCK/HAZEL-STEEP, SHALLOW SOIL, WILLAMETTE  
 CD S4 DOUGLAS-FIR/CEANOTHUS-MANZANITA  
 CD S5 DOUGLAS-FIR/POISON-OAK, ROSE (RHUS DIVERSILOBA, ROSA)  
 CD S6 DOUGLAS-FIR/SPIREA-SNOWBERRY-(D.-FIR-SPIREA, SYMPHORICARPOS)  
 CD S6 11 PONDEROSA-DOUGLAS FIR/SNOWBERRY-OCEANSPRAY, R6 AG 3-1 (SAF 237)  
 CD S6 12 MIXED CONIFER/SNOWBERRY/TWINFLOWER FLATLANDS, R6 AG 4-2 (SAF 210,214,212)  
 CD S6 13 MIXED CONIFER/SNOWBERRY/FORB, R6 AG 4-2 (SAF 210,214,237)  
 CD S6 14 MIXED CONIFER/SNOWBERRY/PINEGRASS, R6 AG 4-2 (SAF 210,214,237)  
 CD S6 21 DOUGLAS-FIR / SNOWBERRY HABITAT TYPE, DAUBENMIRE '68 (SAF 237,210,212)  
 CD S7 DOUGLAS-FIR/NINEBARK (PHYSOCARPUS)  
 CD S7 11 PONDEROSA-DOUGLAS FIR/NINEBARK, R6 AG 3-1 (SAF 237,210,212,214)  
 CD S7 21 DOUGLAS-FIR / NINEBARK HABITAT TYPE, DAUBENMIRE '68 (SAF 237)  
 CD S8 DOUGLAS-FIR/BIG HUCKLEBERRY (VACCINIUM-TALL SPECIES)  
 CD S9 DOUGLAS-FIR WITH SHRUB DOMINATED GROUND VEGETATION  
 CD Z1 STUSLAW(12): DOUGLAS-FIR PLANTATIONS  
 CD Z5 STUSLAW(12):CONIFER-HARDWOOD,DOUGLAS-FIR DOMINANT(TM TYPE MAP)  
 CD Z7 STUSLAW(12):CONIFER, DOUGLAS-FIR DOMINANT (TM TYPE MAP, TEMP)

CE ALPINE FIR-ENGLEMANN SPRUCE CLOSED FOREST, NOT PARKS,SAF 206  
 CE C1 ALPINE FIR - LODGEPOLE PINE  
 CE C9 ALPINE FIR-ENGLEMANN SPRUCE WITH IMPORTANT ASSOCIATED CONIFERS  
 CE F1 ALPINE FIR-SPRUCE/BEARGRASS (XEROPHYLLUM)  
 CE F1 21 ALPINE FIR / BEARGRASS HABITAT TYPE, DAUBENMIRE '68 (SAF 206)  
 CE F2 ALPINE FIR-SPRUCE/TWINFLOWER (LINNAEA)  
 CE F3 ALPINE FIR-SPRUCE/TALL FORB  
 CE F9 ALPINE FIR,SPRUCE WITH FORB DOMINATED GROUND VEGETATION  
 CE G1 ALPINE FIR-SPRUCE/WOODRUSH (LUZULA)  
 CE G2 ALPINE FIR-SPRUCE/SEDE (CAREX SPP)  
 CE G3 ALPINE FIR-SPRUCE/REEDGRASS (CALAMAGROSTIS CANADENSIS)  
 CE G9 ALPINE FIR-SPRUCE WITH GRASS DOMINATED GROUND VEGETATION  
 CE S1 ALPINE FIR-SPRUCE/PACHISTIMA (PACHISTIMA)  
 CE S1 21 ALPINE FIR/PACHISTIMA HABITAT TYPE, DAUBENMIRE '68 (SAF 206)  
 CE S2 ALPINE FIR-SPRUCE/RUSTYLEAF-AZALEA



CE S2 21 ALPINE FIR/RUSTYLEAF HABITAT TYPE, DAUBENMIRE '68(SAF 206)  
 CE S3 ALPINE FIR-SPRUCE/BIG HUCKLEBERRIES  
 CE S3 11 SUB-ALPINE FIR/BIG HUCKLEBERRY, R6 AG 3-1 (SAF 206)  
 CE S4 ALPINE FIR-SPRUCE/GROUSE HUCKLEBERRY-PINEMAT MANZANITA  
 CE S4 11 SUB-ALPINE FIR/GROUSE HUCKLEBERRY, R6 AG 3-1 (SAF 206)  
 CE S4 21 ALPINE FIR/GROUSE HUCKLEBERRY HAB. TYPE, DAUBENMIRE 68, (SAF 206)  
 CE S5 ALPINE FIR/SNOWBERRY (SYMPHORICARPOS)  
 CE S6 ALPINE FIR-SPRUCE/MOUNTAIN HEATH-LABRADORTEA  
 CE S7 ALPINE FIR-SPRUCE/DEVILSCLUB (OPLOPANAX)  
 CE S9 ALPINE FIR-SPRUCE WITH SHRUB DOMINATED GROUND VEGETATION  
 CE X1 MALHEUR(04) 2A: SLOPE LESS 30%; CE S3 11; CE S4 11  
 CE X2 MALHEUR(04) 2B: SLOPE 30-70%; CE S3 11; CE S4 11

CF FIR, SILVER, NOBLE (SAF 226)  
 CF C1 SILVER FIR - MIN. HEMLOCK (SAF 226)  
 CF C2 SILVER FIR-WESTERN HEMLOCK  
 CF C9 SILVER OR NOBLE FIR WITH ASSOCIATED CONIFERS  
 CF F1 SILVER OR NOBLE FIR/OXALIS-TWISTED STALK  
 CF F2 SILVER OR NOBLE FIR/VANILLALEAF-FOAMFLOWER  
 CF F3 SILVER OR NOBLE FIR/BEARGRASS (XEROPHYLLUM)  
 CF F4 SILVER OR NOBLE FIR/OREGON ANEMONE  
 CF F9 SILVER OR NOBLE FIR WITH FORB DOMINATED GROUND VEGETATION  
 CF S1 SILVER OR NOBLE FIR/OREGON GRAPE-SALAL  
 CF S2 SILVER OR NOBLE FIR/BIG HUCKLEBERRIES  
 CF S3 SILVER OR NOBLE FIR/DEVILSCLUB (OPLOPANAX)  
 CF S4 SILVER OR NOBLE FIR/GROUSE HUCKLEBERRY  
 CF S9 SILVER OR NOBLE FIR WITH SHRUB DOMINATED GROUND VEGETATION

CH HEMLOCK, WESTERN (SAF 224,225,226,227,230)  
 CH C1 W. HEMLOCK-PORT ORFORD CEDAR  
 CH C2 W. HEMLOCK-DOUGLAS-FIR DRY SITES (SAF 224,230)  
 CH C2 11 W. HEMLOCK-D.-FIR/HAZEL, STEEP SHALLOW SOIL, WILLAMETTE  
 CH C3 W. HEMLOCK - DOUGLAS-FIR, MOIST SITES (SAF 230)  
 CH C4 W. HEMLOCK - WESTERN RED CEDAR (SAF 227)  
 CH C5 W. HEMLOCK - SILVER FIR (SAF 226)  
 CH C9 WESTERN HEMLOCK WITH IMPORTANT ASSOCIATED CONIFER(S)  
 CH F1 W. HEMLOCK/SWORDFERN/OXALIS (POLYSTICHUM, OXALIS)  
 CH F2 W. HEMLOCK/VANILLALEAF-FOAMFLOWER (ACHLYS, TIARELLA)  
 CH F3 W. HEMLOCK/BEADLILLY-BEARGRASS (CLINTONIA, XEROPHYLLUM)  
 CH F9 WESTERN HEMLOCK WITH FORB DOMINATED GROUND VEGETATION  
 CH H1 W. HEMLOCK/TANOAK-LAUREL (LITHOCARPUS, UMBELLULARIA)  
 CH H2 W. HEMLOCK/BIGLEAF MAPLE (ACER MACROPHYLLUM)  
 CH H3 W. HEMLOCK/CHINKAPIN (CASTANOPSIS)  
 CH H4 W. HEMLOCK/ALDER (ALNUS RUBRA) (SAF 221)  
 CH H9 WESTERN HEMLOCK WITH IMPORTANT ASSOCIATED HARDWOOD TREE(S)  
 CH M1 W. HEMLOCK/SKUNK CABBAGE (LYSICHITUM)  
 CH M9 WESTERN HEMLOCK MEADOWS (MOIST TO WET SOIL)  
 CH S1 W. HEMLOCK/LOW SHRUB, SALAL (GAULTHERIA SHALLON)  
 CH S1 11 W. HEMLOCK/SALAL/FOLD THREAD-STEEP DEEP CLAY SOIL WILLAMETTE  
 CH S1 12 W. HEMLOCK/CASCARIA/SALAL-FLAT DEEP SOIL, WILLAMETTE (SAF 224)  
 CH S2 W. HEMLOCK/VINE MAPLE/OREGON GRAPE  
 CH S3 W. HEMLOCK/RHODODENDRON-VINE MAPLE  
 CH S3 11 W. HEMLOCK-SILVER FIR/RHODOD., ROLLING DEEP SOIL, WILLAM. (226)  
 CH S3 12 W. HEMLOCK/RHODODEN.-VINE MAPLE, STEEP DEEP SOIL, WILLAM. (224)  
 CH S3 13 W. HEMLOCK/VINE MAPLE-RHODODEN., UNSTABLE CLAY SOIL, WILLAM.  
 CH S4 W. HEMLOCK/THIMBLEBERRY-SALMONBERRY  
 CH S5 W. HEMLOCK/DEVILSCLUB (OPLOPANAX)  
 CH S6 W. HEMLOCK/PACHISTIMA-BIG HUCKLEBERRY

CH 56 21 W. HEMLOCK / PACHISTIMA HABITAT TYPE, DAUBENMIRE '68(SAF 224)  
CH 57 WESTERN HEMLOCK WITH SHRUB DOMINATED GROUND VEGETATION  
CH 74 STUSLAW(12): CONIFER-HARDWOOD, HEMLOCK, CEDAR, SPRUCE DOM. (1M MAP)  
CH 76 STUSLAW(12): CONIFER, HEMLOCK, CEDAR, SPRUCE DOMINANT (1M TYPE MAP)

CJ JUNIPER, PINION PINE (SAF 238)  
CJ C9 JUNIPER WITH ASSOCIATED CONIFERS  
CJ G1 JUNIPER/WHEATGRASS (AGROPYRON)  
CJ G1 11 JUNIPER/WHEATGRASS-FESCUE, R6 AG 3-1 (SAF 238)  
CJ G1 12 JUNIPER/WHEATGRASS/BUEGRASS ASSOCIATION, DRISCOLL,64 (SAF 238)  
CJ G2 JUNIPER/FESCUE (JUNIPER-FESTUCA)  
CJ G2 11 JUNIPER/FESCUE/BUEGRASS ASSOCIATION, DRISCOLL,64 (SAF 238)  
CJ G2 12 JUNIPER/WHEATGRASS-FESCUE/BUEGRASS ASSOCIATION,DRISCOLL ,64 (SAF 238)  
CJ G9 JUNIPER WITH GRASS DOMINATED GROUND VEGETATION  
CJ S1 JUNIPER/LOW SAGEBRUSH (ARTEMISIA ARBUSCULA)  
CJ S1 11 JUNIPER/LOW SAGE/WHEATGRASS-FESCUE, R6 AG 3-1 (SAF 238)  
CJ S2 JUNIPER/BIG SAGEBRUSHES (A. TRIDENTATA, A. FRIGIDA)  
CJ S2 11 JUNIPER/BIG SAGE/WHEATGRASS-FESCUE, R6 AG 3-1 (SAF 238)  
CJ S2 21 JUNIPER/BIG SAGE/WHEATGRASS ASSOCIATION, DRISCOLL 64 (SAF 238)  
CJ S2 22 JUNIPER/BIG SAGE/WHEATGRASS-CHAENACTIS ASSOCIATION, DRISCOLL 64(SA62  
CJ S2 23 JUNIPER/BIG SAGE/WHEATGRASS/ASTRAGALUS ASSOCIATIONM DRISCOLL 64,(238  
CJ S2 24 JUNIPER/BIG SAGE/FESCUE ASSOCIATION, DRISCOLL 64, (SAF 238)  
CJ S2 25 JUNIPER/BIG SAGE/FESCUE-LUPINE ASSOCIATION, DRISCOLL 64,(SAF 238)  
CJ S2 36 JUNIPER/BIG SAGE-BITTERBRUSH ASSOCIATION, DRISCOLL 64, (SAF 238)  
CJ S3 JUNIPER/BITTERBRUSH (PURSHIA TRIDENTATA)  
CJ S3 11 JUNIPER/BITTERBRUSH/HUNCHGRASS, R6 AG 4-2 (SAF 238)  
CJ S8 JUNIPER/STIFF SAGE SCABLAND  
CJ S8 11 JUNIPER/STIFF SAGE SCABLAND, R6 AG 3-1 (SAF 238)  
CJ S9 JUNIPER WITH SHRUB DOMINATED GROUND VEGETATION

CL LODGEPOLE PINE, SHORE PINE (CLIMAX OR STABLE SERAL) SAF 218  
CL C1 LODGEPOLE-WHITEBARK PINE-ALPINE (SAF 218, 208)  
CL C2 LODGEPOLE-DOUGLAS-FIR SERPENTINE; JUNIPER, MANZANITA  
CL C3 LODGEPOLE, PONDEROSA  
CL C4 LODGEPOLE, DOUGLAS-FIR  
CL C9 LODGEPOLE PINE WITH IMPORTANT ASSOCIATED CONIFER TREE(S)  
CL G1 LODGEPOLE/HUNCHGRASS (AGROPYRON, FESTUCA)  
CL G2 LODGEPOLE/RHYZOMATOUS GRASS (CALAMAGROSTIS)  
CL G2 11 LODGEPOLE/PINEGRASS-GROUSE HUCKLEBERRY, R6 AG 3-1 (SAF 218)  
CL G3 LODGEPOLE/HUNCHGRASS ON PUMICE (STIPA, FESTUCA)  
CL G3 11 LODGEPOLE/NEEDLEGRASS BASINS, PUMICE, R6 AG 4-2 (SAF 218)  
CL G3 12 LODGEPOLE/IDAHO FESCUE, PUMICE, R6 AG 4-2 (SAF 218)  
CL G3 13 LODGEPOLE/NEEDLEGRASS-LUPINE-LINANTHASTRUM,PUMICE,R6 AG 4-2(SAF 218)  
CL G3 14 LODGEPOLE/NEEDLEGRASS-LUPINE, PUMICE, R6 AG 4-2 (SAF 218)  
CL G4 LODGEPOLE/RHYZOMATOUS GRASS ON PUMICE (ELYMUS, CAREX)  
CL G4 11 LODGEPOLE/LONG STOLON SEDGE-LUPINE,PUMICE,R6 AG 4-2(SAF 218)  
CL G4 12 LODGEPOLE/SEDE-LUPINE-PENSTEMON, PUMICE, R6 AG 4-2 (SAF 218)  
CL G4 13 LODGEPOLE/SEDE-NEEDLEGRASS BASINS, PUMICE, R6 AG 4-2 (SAF 218)  
CL G9 LODGEPOLE WITH GRASS DOMINATED GROUND VEGETATION  
CL M1 LODGEPOLE/TALL SEDGE-GRASS (CAREX NEBRASKENSIS, ELYMUS)  
CL M1 11 LODGEPOLE/SEDE-FORB WETLAND, PUMICE, R6 AG 4-2 (SAF 218)  
CL M2 LODGEPOLE/DWARF SHRUB-GRASS (ARCTOSTAPHYLOS UVA-URSI)  
CL M2 11 LODGEPOLE/BEARBERRY-GRASS WETLAND, PUMICE, R6 AG 4-2 (SAF 218)  
CL M3 LODGEPOLE/LOW HUCKLEBERRY-GRASS (SAF 218)  
CL M3 11 LODGEPOLE/BLUBERRY-FORB WETLAND, PUMICE, R6 AG 4-2 (SAF 218)  
CL M9 LODGEPOLE MEADOWS (MOIST TO WET SOILS)  
CL S1 LODGEPOLE/BIG SAGEBRUSH (ARTEMISIA TRIDENTATA)  
CL S1 11 LODGEPOLE/SAGEBRUSH/FESCUE, PUMICE, RL AG 4-2 (SAF 218)

CL S1 12 LODGEPOLE/SAGEBRUSH, RHYOLITE PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 LODGEPOLE/BITTERBRUSH (PURSHIA TRIDENTATA)  
 CL S2 11 LODGEPOLE/BITTERBRUSH/NEEDLEGRASS, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 12 LODGEPOLE/BITTERBRUSH/LONG STOLON SEDGE, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 13 LODGEPOLE/BITTERBRUSH/FORB, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 14 LODGEPOLE/BITTERBRUSH/IDAHO FESCUE, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 15 LODGEPOLE/CURRENT-BITTERBRUSH/NEEDLEGRASS, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S2 16 LODGEPOLE/BITTERBRUSH, RHYOLITE PUMICE, R6 AG 4-2 (SAF 218)  
 CL S3 LODGEPOLE/PINEMAT MANZANITA (ARCTOSTAPHYLOS NEVADENSIS)  
 CL S3 11 LODGEPOLE/PINEMAT MANZANITA/NEEDLEGRASS, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S4 LODGEPOLE/GROUSE HUCKLEBERRY (VACCINIUM SCOPARIUM)  
 CL S4 11 LODGEPOLE/GROUSE HUCKLEBERRY, R6 AG 3-1 (SAF 218)  
 CL S4 12 LODGEPOLE/GROUSE HUCKLEBERRY, PUMICE, R6 AG 4-2 (SAF 218)  
 CL S5 LODGEPOLE/BIG HUCKLEBERRY (VACCINIUM MEMBRANACEUM, V. ALASKENSE)  
 CL S5 11 LODGEPOLE/BIG HUCKLEBERRY R6 AG 3-1 (SAF 218)  
 CL S8 LODGEPOLE/COASTAL-SALAL-HUCKLEBERRY (GAULTHERIA, VACCINIUM)  
 CL S8 11 DEFLATION PLAIN: LODGEPOLE/SALAL-EVERGRN HUCK/SEDGE, SIUSLAW  
 CL S8 12 FLOODPLAIN DUNE: LODGEPOLE/RHODODEN/EVERGRN HUCK, SIUSLAW  
 CL S8 21 STABILIZED DUNE: LODGEPOLE/RHODODEN/EVERGRN HUCK, SIUSLAW  
 CL S8 22 ERODING DUNE: LODGEPOLE/RHODODEN/EVERGRN HUCK, SIUSLAW  
 CL S8 23 DUNE SLIP FACE: LODGEPOLE/RHODODEN/EVERGRN HUCK, SIUSLAW  
 CL S8 31 ROLLING DUNE: OPEN LODGEPOLE/KINNIKINIC-HAIRY MANZ, SIUSLAW  
 CL S9 LODGEPOLE WITH SHRUB DOMINATED GROUND VEGETATION  
 CL S9 11 LODGEPOLE/SNOWBRUSH-MANZANITA, PUMICE, R6 AG 4-2 (SAF 218)  
 CL X1 MALHEUR(04) 4A:SLOPE LESS 30%; CL G2 11; CL S5 11; CL S4 11  
 CL X1 WINEMA(20): CL G4 11, CL S2 12, CL G3 (SAF 218)  
 CL X2 MALHEUR(04) 4B:SLOPE 30-70%; CL G2 11; CL S5 11; CL S4 11  
 CL X2 WINEMA(20): CL G3 12, CL M1 11, CL M2 11, CL S2 14 (SAF 218)  
 CL X3 WINEMA(20): CL M2 11, CL S2 11, CL S2 13 (SAF 218)  
 CL X4 WINEMA(20): CL G3 11 (SAF 218)  
 CL X5 WINEMA(20) CL G9, CL S9 (SAF 218)

CM MOUNTAIN HEMLOCK (SAF 205)  
 CM C1 MTN. HEMLOCK-ALASKA CEDAR (CHAMAECYPARIS NOOTKATENSIS)  
 CM C9 MOUNTAIN HEMLOCK WITH IMPORTANT ASSOCIATED CONIFER TREE(S)  
 CM F1 MTN. HEMLOCK/BEARGRASS (XEROPHYLLUM)  
 CM F1 21 MTN. HEMLOCK / BEARGRASS HABITAT TYPE, DAUBENMIRE '68 (SAF 205)  
 CM F9 MOUNTAIN HEMLOCK WITH FORB DOMINATED GROUND VEGETATION  
 CM G1 MTN. HEMLOCK/PINEGRASS (CALAMAGROSTIS)  
 CM G2 MTN. HEMLOCK/WOODRUSH (LUZULA)  
 CM G9 MOUNTAIN HEMLOCK WITH GRASS DOMINATED GROUND VEGETATION  
 CM S1 MTN. HEMLOCK/GROUSE HUCKLEBERRY-PINEMAT MANZANITA  
 CM S1 11 MT. HEMLOCK/GROUSE HUCKLEB./LONG STOLON SEDGE, PUMICE, R6 AG 4-2 (SAF 205)  
 CM S1 12 MTN. HEMLOCK/DWARF HUCKLEBERRY, ROLLING PUMICE, WILLAM. SAF 205  
 CM S2 MTN. HEMLOCK/BIG HUCKLEBERRIES  
 CM S2 11 MTN. HEMLOCK/HUCKLEBERRY, STEEP PUMICE, WILLAMETTE (SAF 205)  
 CM S2 12 MTN. HEMLOCK/HUCKLEBERRY, ROLLING ASH, WILLAMETTE (SAF 205)  
 CM S2 13 MTN. HEMLOCK-FIR/HUCKLEB. UNDUL. BLACK SAND, WILLAM. SAF 205  
 CM S2 14 MTN. HEMLOCK-FIR/HUCKLEB. STEEP BLACK SANDY ASH, WILLAM. SAF 205  
 CM S2 15 MTN. HEMLOCK-PINE/HUCKLEBERRY, STEEP CINDERS, WILLAM. (SAF 205)  
 CM S3 MTN. HEMLOCK/RUSTYLEAF-AZALEA  
 CM S3 21 MTN. HEMLOCK / RUSTYLEAF HABITAT TYPE, DAUBENMIRE '68 (SAF 205)  
 CM S4 MTN. HEMLOCK/DEVILSCLUB (OPLOPANAX)  
 CM S5 MTN. HEMLOCK/LOW SHRUB (CORNUS CANADENSIS, LEDUN, LINNAEA)  
 CM S6 MTN. HEMLOCK/VINE MAPLE, OCEAN SPRAY  
 CM S6 11 MTN. HEM-D.-FIR/VINE MAPLE-OCEAN SPRAY, LAVA, WILLAM. SAF 205  
 CM S9 MOUNTAIN HEMLOCK WITH SHRUB DOMINATED GROUND VEGETATION



CP PONDEROSA, JEFFERY PINE (SAF 237,245,247)  
 CP C1 PONDEROSA, JEFFERY-INCENSE CEDAR (LIBOCEDRUS)  
 CP C2 PONDEROSA-JUNIPER  
 CP C3 PONDEROSA PINE - LODGEPOLE PINE  
 CP C9 PONDEROSA, JEFFERY PINE WITH IMPORTANT ASSOCIATED CONIFER(S)  
 CP G1 PONDEROSA/BUNCHGRASS--NON PUMICE SOIL (AGROPYRON, FESTUCA)  
 CP G1 11 PONDEROSA/WHEATGRASS, R6 AG 3-1 (SAF 237)  
 CP G1 12 PONDEROSA/IDAHO FESCUE, R6 AG 3-1 (SAF 237)  
 CP G1 21 PONDEROSA / WHEATGRASS HABITAT TYPE, DAUBENMIRE '68(SAF 237)  
 CP G1 22 PONDEROSA / IDAHO FESCUE HABITAT TYPE, DAUBENMIRE '68(SAF 237)  
 CP G1 23 PONDEROSA / NEEDLEGRASS HABITAT TYPE, DAUBENMIRE '68(SAF 237)  
 CP G2 PONDEROSA/RHIZOMATOUS GRASS-SEDE (CALAMAGROSTIS,CARE,POA)  
 CP G2 12 PONDEROSA/SEDE-FESCUE-PEAVINE, R6 AG 4-2 (SAF 237)  
 CP G3 PONDEROSA/BUNCHGRASS--PUMICE SOIL (STIPA, FESTUCA)  
 CP G3 11 PONDEROSA/IDAHO FESCUE, PUMICE, R6 AG 4-2 (SAF 237)  
 CP G6 JEFFERY PINE--SERPENTINE/GABBRO BUNCHGRASS, SAF 247  
 CP G9 PONDEROSA, JEFFERY PINE WITH GRASS DOMINATED GROUND VEGETATION  
 CP H1 PONDEROSA, JEFFERY-MADRONE-MANZANITA (SAF 234,245,247)  
 CP H2 PONDEROSA, JEFFERY-OAK, WHITE OR BLACK (SAF 233,245,246,247)  
 CP H9 PONDEROSA, JEFFERY PINE WITH IMPORTANT ASSOCIATED HARDWOOD(S)  
 CP M1 PONDEROSA, JEFFERY/WILDRYE-BLUEGRASS (ELYMUS, POA PRATENSIS)  
 CP M1 11 PONDEROSA/BLUE WILDRYE, R6 AG 3-1 (SAF 237)  
 CP M9 PONDEROSA, JEFFERY PINE MEADOWS (MOIST TO WET SOIL)  
 CP S1 PONDEROSA, JEFFERY/BIG SAGEBRUSH  
 CP S1 11 PONDEROSA/BITTERBRUSH-SAGEBRUSH/FESCUE, R6 AG 4-2 (SAF 237)  
 CP S1 12 PONDEROSA/BITTERBRUSH-SAGEBRUSH/SQUIRRELTAIL(RHYOLITE),R6 AG 4-2(237)  
 CP S2 PONDEROSA, JEFFERY/BITTERBRUSH (PURSHIA TRIDANTATA)  
 CP S2 11 PONDEROSA/BITTERBRUSH/IDAHO FESCUE, PUMICE, R6 AG 4-2 (SAF 237)  
 CP S2 12 PONDEROSA/BITTERBRUSH/NEEDLEGRASS, PUMICE, R6 AG 4-2 (SAF 237)  
 CP S2 13 PONDEROSA/BITTERBRUSH-MANZANITA/NEEDLEGRASS, PUMICE,R6 AG 4-2(SAF 237)  
 CP S2 14 PONDEROSA/BITTERBRUSH-MANZANITA/LONG STOLON SEDGE,PUMICE,R6 AG 4-2(237)  
 CP S2 15 PONDEROSA/BITTERBRUSH/LONG STOLON SEDGE, PUMICE, R6 AG 4-2 (SAF 237)  
 CP S2 16 PONDEROSA/BITTERBRUSH/BUNCHGRASS, R6 AG 4-2 (SAF 237)  
 CP S2 17 PONDEROSA/BITTERBRUSH-MANZANITA/FESCUE, R6 AG 4-2 (SAF 237)  
 CP S2 18 PONDEROSA/BITTERBRUSH/SQUIRRELTAIL(RHYOLITE), R6 AG 4-2 (SAF 237)  
 CP S2 21 PONDEROSA/BITTERBRUSH/ROSS SEDGE, R6 AG 3-1 (SAF 237)  
 CP S2 22 PONDEROSA/BITTERBRUSH HABITAT TYPE, DAUBENMIRE 68, (SAF 237)  
 CP S3 PONDEROSA/CEANOTHUS (CEANOTHUS)  
 CP S3 11 PONDEROSA/BITTERBRUSH-CEANOTHUS/NEEDLEGRASS, PUMICE, R6 AG 4-2 (237)  
 CP S3 12 PONDEROSA/BITTERBRUSH-CEANOTHUS/LONG STOLON SEDGE, PUMICE,R6 AG 4-2  
 CP S3 13 PONDEROSA/CEANOTHUS/LONG STOLON SEDGE, PUMICE, R6 AG 4-2 (SAF 237)  
 CP S3 14 PONDEROSA/BITTERBRUSH-SNOWBRUSH/FESCUE, R6 AG 4-2 (SAF 237)  
 CP S4 PONDEROSA/OCEANSPRAY-CHERRY TALL SHRUB  
 CP S5 PONDEROSA/SNOWBERRY-SPIREA  
 CP S5 21 PONDEROSA / SNOWBERRY HABITAT TYPE, DAUBENMIRE '68(SAF 237)  
 CP S6 PONDEROSA/MANZANITA-DEERBRUSH  
 CP S7 PONDEROSA/NINEBARK (PHYSOCARPUS, CEANOTHUS)  
 CP S7 21 PONDEROSA / NINEBARK HABITAT TYPE, DAUBENMIRE '68(SAF 237)  
 CP S9 PONDEROSA, JEFFERY PINE WITH SHRUB DOMINATED GROUND VEGETATION  
 CP X1 MALHEUR(04) 6A: SLOPE -30%; CP G1 11;CP S2 21;CP M1 11;CDG111  
 CP X1 WINEMA(20): CP S2 11, CP G3 11 (SAF 237)  
 CP X2 MALHEUR(04) 6B: 30-70%;CP G1 11;CP S2 21;CP M1 11;CD G1 11  
 CP X2 WINEMA(20): CP S2 12, CP S2 13, CP S3 11 (SAF 237)  
 CP X3 MALHEUR(04) 6C:30-70%,TUFF;CP G1 11;CP S2 21;CP M1 11;CD G1 11  
 CP X3 WINEMA(20): CP S2 13,CP S2 15,CP S3 12,CP S3 13,CWS112(SAF237)  
 CP X4 MALHEUR(04) 6D:LESS 30%,SERP;CP G1 11;CP S2 21;CP M1 11;CDG111  
 CP X4 WINEMA(20): CP S3, CP S6 (SAF 237)  
 CP X5 MALHEUR(04) 6E:30-70%,SERP;CP G1 11;CP S2 21;CP M1 11;CD G1 11

CP X5 WINEMA(20): CP C2 (SAF 237)  
 CP Y1 MALHEUR(04) 6F: PONDEROSA/WYETHIA; SLOPE LESS 30%  
  
 CR RED FIR (SHASTA RED) (SAF 207)  
 CR C9 RED FIR WITH ASSOCIATED CONIFERS  
 CR F1 RED FIR/ERICACEOUS FORB (PIROLA, CHIMAPHILA)  
 CR F9 RED FIR WITH FORB DOMINATED GROUND VEGETATION  
 CR H1 RED FIR/CHINKAPIN (CASTANOPSIS)  
 CR H4 RED FIR WITH IMPORTANT ASSOCIATED HARDWOOD(S)  
 CR S1 RED FIR/GROUSE HUCKLEBERRY-PINEMAT MANZANITA  
 CR S1 11 RED FIR/PINEMAT MANZANITA/NEEDLEGRASS, PUMICE, R6 AG 4-2 (SAF 207)  
 CR S2 RED FIR/BLACKBERRY-SHOSBERRY (RUBUS, SYMPHORICARPOS)  
 CR S9 RED FIR WITH SHRUB DOMINATED GROUND VEGETATION  
  
 CS SPRUCE, SITKA (SAF 223,225)  
 CS C9 SITKA SPRUCE WITH ASSOCIATED CONIFERS  
 CS F1 SITKA SPRUCE/SWORDFERN (POLYSTICHUM MUNITUM)  
 CS F2 SITKA SPRUCE/LADYFERN-TWISTEDSTALK  
 CS F9 SITKA SPRUCE WITH FORB DOMINATED GROUND VEGETATION  
 CS H1 SITKA SPRUCE/CALIFORNIA LAUREL (UMBELLULARIA)  
 CS H2 SITKA SPRUCE/ELDERBERRY (SAMBUCUS)  
 CS H3 SITKA SPRUCE/BIGLEAF MAPLE (ACER MACROPHYLLUM)  
 CS H9 SITKA SPRUCE WITH IMPORTANT ASSOCIATED HARDWOOD(S)  
 CS M1 SITKA SPRUCE/WILLOW-WAXMYRTLE (SALIX, MYRICA)  
 CS M9 SITKA SPRUCE MEADOWS (MOIST TO WET SOIL)  
 CS S1 SITKA SPRUCE/EVERGREEN HUCKLEBERRY (VACCINIUM OVATUM)  
 CS S2 SITKA SPRUCE/RED HUCKLEBERRY (VACCINIUM PARVIFOLIUM)  
 CS S3 SITKA SPRUCE/SALAL (GAULTHERIA SHALLON)  
 CS S4 SITKA SPRUCE/RHODODENDRON (RHODODENDRON MACROPHYLLUM)  
 CS S4 11 STABILIZED DUNE:SITKA SPRUCE-D.FIR/RHODO-EVERGRN HUCK.SIUSLAW  
 CS S4 12 FLOOD PLAIN: SITKA SPRUCE-LODGEPOLE-W. HEMLOCK/RHODO.SIUSLAW  
 CS S4 21 SANDY,STEEP SLOPE:SITKA SPRUCE-D.FIR/RHODO-FEVERGR HUCK.SIUSLAW  
 CS S4 22 SANDY,GENTLE SLOPE:SITKA SPRUCE-D.FIR/RHODO-EVERGR HUCK.SIUSL.  
 CS S5 SITKA SPRUCE/THIMBLEBERRY-SALMONBERRY  
 CS S6 SITKA SPRUCE/DEVILSCLUB (OPLOPANAX)  
 CS S9 SITKA SPRUCE WITH SHRUB DOMINATED GROUND VEGETATION  
  
 CW WHITE FIR, GRAND FIR (SAF 211,213,229,243)  
 CW C1 WHITE FIR-INCENSE CEDAR (LIBOCEDRUS) (SAF 243,244,211,213,214)  
 CW C2 WHITE FIR-DOUGLAS-FIR(PSEUDOTSUGA) (SAF 211,212,213,214,229,243)  
 CW C2 11 MIXED CONIFER/SNOWBRUSH-CHINKAPIN/BRACKEN,R6 AG 4-2(SAF 210,211-214,  
 CW C2 12 MIXED CONIFER/SNOWBRUSH-CHINKAPIN/PINEGRASS,R6 AG 4-2(SAF210-11,213-  
 CW C2 13 MIXED CONIFER/SNOWBRUSH/SEDGE-BRACKEN FERN, R6 AG 4-2 (SAF 210,213,2  
 CW C9 WHITE FIR WITH IMPORTANT ASSOCIATED CONIFER(S)  
 CW F1 WHITE FIR/VANILLALEAF-FOAMFLOWER  
 CW F2 WHITE FIR/PYROLA-PIPSISSEWA (PYROLA-CHIMAPHILA)  
 CW F3 WHITE FIR/TWINFLOWER (LINNEAE)  
 CW F3 11 GRAND FIR/TWINFLOWER/FORB, R6 AG 3-1(SAF 211,212,213,214,215)  
 CW F4 WHITE FIR/BEARGRASS-BEADLILLY (XEROPHYLLUM, CLINTONIA)  
 CW F9 WHITE FIR WITH FORB DOMINATED GROUND VEGETATION  
 CW G1 WHITE FIR/PINEGRASS-ELK SEDGE (CALAMAGROSTIS, CAREX GEYERI)  
 CW G1 11 MIXED CONIFER/PINEGRASS RESID.SOIL,R6 AG 3-1SAF211,213,214,237  
 CW G1 12 MIXED CONIFER/PINEGRASS, ASH SOIL,R6 AG 3-1 SAF211,213,214,237  
 CW G2 WHITE FIR/COLUMBIA BROME (BROMUS VULGARIS)  
 CW G9 WHITE FIR WITH GRASS DOMINATED GROUND VEGETATION  
 CW H1 WHITE FIR/CHINKAPIN (CASTANOPSIS)  
 CW H1 11 WHITE FIR/CEANO-CHINK/NEEDLEGRASS, PUMICE,R6 AG 4-2(SAF211,213,214,2  
 CW H9 WHITE FIR WITH IMPORTANT ASSOCIATED HARDWOOD(S)

CW S1 WHITE FIR/CEANOTHUS, DEERBRUSH (CEANOTHUS)  
 CW S1 12 WHITE FIR/CEANOTHUS-MANZANITA, PUMICE, R6 AG 4-2 (SAF 211,213,214,23  
 CW S1 13 MIXED CONIFER/MANZANITA-SNOWBRUSH/SEGE-PENSTAMON, R6 AG 4-2(211,213  
 CW S1 14 WHITE FIR/CEANOTHUS/PINEMAT MANZANITA, PUMICE,R6 AG 4-2(211,213,214)  
 CW S2 WHITE FIR/BIG HUCKLEBERRY (VACCINIUM)  
 CW S2 11 GRAND FIR/BIG HUCKLEBERRY, R6 AG 3-1 (SAF 211,213,215)  
 CW S3 WHITE FIR/SPIREA-SNOWBERRY (SPIREA, SYMPHORICARPOS)  
 CW S4 WHITE FIR/NINEBARK (PHYSOCARPUS)  
 CW S4 22 GRAND FIR/NINEBARK HABITAT TYPE, DAUBENMIRE '68(SAF 211,213,215)  
 CW S5 WHITE FIR/OCEANSPRAY-OREGON GRAPE, (HOLODISCUS, BERBERIS)  
 CW S5 11 WHITE FIR/OCEANSPRAY/LUMATUM, STEEP SHALLOW SOIL, WILLAM.  
 CW S6 WHITE FIR/TRAILING VINE (WHIPPLEA)  
 CW S7 WHITE FIR/PACHISTIMA  
 CW S8 WHITE FIR/LOW HUCKLEBERRY  
 CW S8 11 GRAND FIR/GROUSE HUCKLEBERRY, R6 AG 3-1 (SAF 211, 213)  
 CW S9 WHITE FIR WITH SHRUB DOMINATED GROUND VEGETATION  
 CW S9 11 ENGELMANN SPRUCE-FIR BOTTOMS, R6 AG 4-2 (SAF 205 OR 206)  
 CW X1 MALHEUR(04) 3A: SLOPE LESS 30%; CW F3 11; CW S2 11; CW S8 11  
 CW X1 WINEMA(20): CW S1 12, CW S1 14 (SAF 211,213,214,237)  
 CW X2 MALHEUR(04) 3B: SLOPE 30-70%; CW F3 11; CW S2 11; CW S8 11  
 CW X2 WINEMA(20): CW H1 11 (SAF 211,213,214,237)  
 CW X3 WINEMA(20): CL S3 11, CM S1 11, CR S1 11 (SAF 218,205,207)  
 CW X4 WINEMA(20): CW C1,CW C2,CW C9,CW H1,CW S1(SAF 212,213,214,229)  
 CW Y1 MALHEUR(04) 5A: SLOPE LESS 30%;CW G1 11;CW G1 12; CD S7 11  
 CW Y2 MALHEUR(04) 5B: SLOPE 30-70%; CW G1 11; CW G1 12; CD S7 11  
 CW Y3 MALHEUR(04) 5C: LESS 30%; SERPENT.;CW G1 11; CW G1 12;CD S7 11  
 CW Y4 MALHEUR(04) 5D: 30-70%; SERPENTINE; CW G1 11;CW G1 12;CD S7 11  
 CX CONIFEROUS FOREST (NO ASSOCIATION SPECIFIED)

#### D DESERT (SEE DX)

DC COLD DESERT (FREEZING WINTERS)  
 DC 11 21 GREASEWOOD / SALTGRASS HABITAT TYPE, DAUBENMIRE '70  
 DC 19 GREASEWOOD (SARCOPATUS)  
 DC 29 SHADSCALE (ATRIPLEX)  
 DC 31 21 WINTERFAT / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 DC 39 WINTERFAT (EUROTIA)  
 DC 41 21 HOPSAGE / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 DC 49 HOPSAGE (GRAYIA)  
 DW WARM DESERT  
 DX DESERT (NO ASSOCIATION SPECIFIED)

#### F FORBLAND (SEE FX)

FM MOIST (MESIC) FORBLANDS IN FOREST ZONE  
 FM 19 BRACKENFERN-BLACKBERRY (PTERIDIUM, RUBUS)  
 FM 29 BEARGRASS (XEROPHYLLUM)  
 FM 88 COASTAL LUPINE (LUPINUS LIHORALIS, PTERIDIUM)  
 FM 89 COASTAL FORBLAND(PTERIDIUM, ANTHOXANTHUM, EPILOBIUM, SOLIDAGO)  
 FM 91 BUCKWHEAT SCAB (ERIOGONUM)  
 FM 91 22 ERIOGONUM SPHAEROCEPHALUM/POA HABITAT TYPE, DAUBENMIRE '70  
 FM 91 23 ERIOGONUM DOUGLASII/POA HABITAT TYPE, DAUBENMIRE '70  
 FM 91 24 ERIOGONUM COMPOSITUM/POA HABITAT TYPE, DAUBENMIRE '70  
 FM 91 25 ERIOGONUM THYMIOIDES-POA HABITAT TYPE, DAUBENMIRE '70  
 FM 99 SCARBLAND



FS SUBALPINE FORB FIELDS, ALPINE FORB FIELDS  
 FS 19 SUBALPINE-VALERIAN (SUBALPINE-VALERIANA)  
 FS 29 SUBALPINE-MOIST: LUPINE-INDIAN PAINTBRUSH-BUTTERCUP  
 FS 39 SUBALPINE-WET: SAUSSUREA-MONKEYFLOWER-MARSHMARIGOLD  
 FS 49 SUBALPINE-LUETKA (LUETKEA PECTINATA)  
 FS 59 SUBALPINE-FLEECEFLOWER (POLYGONUM PHYTOLACCAFFOLIUM)  
 FS 59 11 BLUE MOUNTAIN SUBALPINE FLEECEFLOWER R6 AG 3-1  
 FS 69 SUBALPINE-LUPINE-ASTER-GRASS (LUPINUS LATIFOLIUS, ASTER, STIPA)  
 FS 79 SUBALPINE-CUSHION PLANT (PHLOX, ARENARIA, IVESIA)

FW WET FORBLANDS, FORB MEADOWS  
 FW 19 COWPARSNIP (HERACLEUM)  
 FW 29 COTTONSEDGE/SPHAGNUM-SEDGE (ERIOPHORUM-SPHAGNUM-CAREX)  
 FW 39 CAMAS (CAMASSIA)  
 FX FORBLAND (NO ASSOCIATION SPECIFIED)

## G GRASSLAND (SEE GX)

GA ANNUAL GRASS VEGETATION  
 GA 19 CHEATGRASS (BROMUS TECHTORUM)  
 GA 29 MEDUSAHEAD (ELYMUS CAPUT-MEDUSAE)  
 GA 39 DOGTAIL (CYNOSURUS)  
 GA 49 SOFT CHESS (BROMUS MOLLIS)

GB BUNCHGRASS VEGETATION  
 GB 11 21 SAND DROPSEED / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 GB 11 22 THREEAWN / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 GB 19 THREEAWN-SAND DROPSEED (ARISTIDA, SPOROBOLUS)  
 GB 21 21 NEEDLEGRASS / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 GB 21 22 NEEDLEGRASS / BLUEGRASS - ERIOGONUM H. T. PHASE, DAUBENMIRE '70  
 GB 29 NEEDLEGRASS (STIPA)  
 GB 39 SQUIRRELTAIL (SIITANION)  
 GB 41 BLUEBUNCH WHEATGRASS  
 GB 41 21 WHEATGRASS / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 GB 41 22 WHEATGRASS / FESCUE HABITAT TYPE, DAUBENMIRE '70  
 GB 42 WHITMAR WHEATGRASS (SEEDED OR NATIVE)  
 GB 43 CRESTED WHEATGRASS (SEEDED)  
 GB 49 WHEATGRASS (ACROPYRON)  
 GB 49 11 BUNCHGRASS, SHALLOW SOIL, GENTLE SLOPE, R6 AG 3-1  
 GB 49 12 BUNCHGRASS, DEEP SOIL, GENTLE SLOPE, R6 AG 3-1  
 GB 49 13 BUNCHGRASS, SHALLOW SOIL, STEEP SLOPES, R6 AG 3-1  
 GB 49 14 BUNCHGRASS, DEEP SOIL, STEEP SLOPES, R6 AG 3-1  
 GB 51 21 FESCUE - SNOWBERRY HABITAT TYPE, DAUBENMIRE '70  
 GB 51 22 FESCUE - ROSE HABITAT TYPE, DAUBENMIRE '70  
 GB 51 23 FESCUE - HIERACEUM HABITAT TYPE, DAUBENMIRE '70  
 GB 59 IDAHO FESCUE (FESTUCA IDAHOENSIS)  
 GB 69 ROUGH FESCUE (FESTUCA SCABRELLA)  
 GB 71 21 GIANT RYE / SALTGRASS HABITAT TYPE, DAUBENMIRE '70  
 GB 79 GIANT WILDRYE (ELYMUS CINEREUS)  
 GB 91 11 BLUEGRASS SCABLAND, R6 AG 3-1  
 GB 99 SCABLAND (POA, DANTHONIA)  
 GB 89 BISCUIT - SCABLAND COMPLEX  
 GB C9 BUNCHGRASS WITH A FEW SCATTERED CONIFERS  
 GB S9 BUNCHGRASS WITH A FEW SCATTERED SHRUBS \*SAGE OR BITTERBRUSH<  
 GB X1 MALHEUR(04) 7A: SLOPE LESS 30%; GB 49 11; GB 49 12  
 GB X2 MALHEUR(04) 7B: SLOPE 30-70%; GB 49 13; GB 49 14  
 GB X3 MALHEUR(04) 7C: SLOPE LESS 30%, SERPENTINE: GB 49 11, GB 49 12

GB X4 MALHEUR(04) 7D: SLOPE 30-70%, SERPENTINE; GR 49 13; GR 49 14

GM MOIST (MESIC) GRASSLAND WITHIN FOREST ZONE

GM 19 NEEDLEGRASS (STIPA) INTERIOR VALLEY, WILLAMETTE, PUGET SOUND

GM 29 RFD FESCUE (FESTUCA) INTERIOR VALLEY; WILLAMETTE, PUGET SOUND

GM 39 OATGRASS-NEEDLEGRASS (DANTHONIA STIPA) INTERIOR VALLEY

GM 89 COASTAL GRASSLAND (ANTHOXANTHUM, FESTUCA)

GM 89 PUGET MINE MOUNDS

GM C9 MOIST, MESIC, GRASSLAND WITH SOME, SCATTERED CONIFERS

GR RYZOMATIOUS GRASS OR SEDGE VEGETATION

GR 19 LOW SEDGE (CAREX SPP)

GR 29 BLUE GRAMA (BOUTELLOUA)

GR 31 21 SALTGRASS HABITAT TYPE, DAUBENMIRE 170

GR 39 SALTGRASS (DISTICHLIS)

GR 61 FOREDUNE (SANDY DUNE GEOLOGY) BEACHGRASS

GR 81 11 FOREDUNE: BEACHGRASS, SIUSLAW

GR 82 HUMMOCKS (SAND DUNE GEOLOGY) BEACHGRASS

GR 82 11 HUMMOCKS, OCC. WET: DENSE BEACHGRASS/LUPINE/BLEUGRASS, SIUSLAW

GR 82 12 HUMMOCKS, OCC. WET, UNSTABLE: OPEN BEACHGRASS/LUPINE, SIUSLAW

GR 82 13 HUMMOCKS, DRY, ERODING: BEACHGRASS/LUPINE/BLEUGRASS, SIUSLAW

GR 83 DUNE SLIP FACE: BEACHGRASS

GR 83 11 DUNE SLIP FACE: BEACHGRASS, STABILIZED, SIUSLAW

GR 89 BEACHGRASS (AMMOPHILA)

GS SUBALPINE OR ALPINE GRASSLAND

GS 11 GREEN FESCUE (FESTUCA VIRIDULA)

GS 12 ALPINE FESCUE (F. IDAHOENSIS, F. OVINA)

GS 12 11 SUBALPINE IDAHO FESCUE, R6 AG 3-1

GS 13 ALPINE-ROUGH FESCUE (F. SCABRELLA)

GS 19 ALPINE-BUNCHGRASS (FESTUCA, AGROPYRON)

GS 29 ALPINE-TALL SEDGE (C. HOODII, C. PRESLII, C. SPECTABILIS, JUNCUS)

GS 39 ALPINE-SHORT, DENSE SEDGE (C. NIGRICANS, C. GEYERI)

GS 39 11 SUBALPINE ELK SEDGE, R6 AG 3-1

GS 49 ALPINE-SHORT, THIN SEDGE (CAREX BREWET, C. ENGELMANII)

GS 59 ALPINE NEEDLEGRASS, SQUIRRELTAIL GRASS

GS C9 GRASSLANDS, SUBALPINE TO ALPINE WITH SOME SCATTERED CONIFERS

GS Y1 MALHEUR(04) 9C: SLOPE -30%, SERPENT; SD 91 11; CJ S8 11; GS 91 11

GS Y2 MALHEUR(04) 9D: 30-70%, SERPENTINE; SD 91 11; CJ S8 11; GS 91 11

GX GRASSLAND (NO ASSOCIATION SPECIFIED)

#### H HARDWOOD FOREST (SEE HX)

HA ALDER (SAF 221)

HA C9 ALDER WITH IMPORTANT ASSOCIATED CONIFERS

HA F1 ALDER/SWORDFERN (POLYSTICHUM MINUTUM)

HA F9 ALDER WITH FORB DOMINATED GROUND VEGETATION

HA H9 ALDER WITH IMPORTANT ASSOCIATED HARDWOODS

HA M1 ALDER-OVERFLOW BOTTOMLAND (ALNUS RUBRA)

HA M2 ALDER-OVERFLOW BOTTOMLAND (ALNUS RHOMBIFOLIA)

HA M9 ALDER MEADOWS (MOIST TO WET SOIL)

HA S1 ALDER/SALMONBER., THIMBLER., (RUBUS PARVIFLORUS, R. SPECTABILIS)

HA S9 ALDER WITH SHRUB DOMINATED GROUND VEGETATION

HA Z2 SIUSLAW(12): PURE ALDER (TM TYPE MAP, TEMPORARY)

HA Z3 SIUSLAW(12): ALDER-CONIFER, ALDER PREDOMINANT (TM TYPE MAP, TEMP)

HB BIGLEAF MAPLE

HB M1 BIGLEAF MAPLE-OVERFLOW BOTTOMLANDS, MOIST  
HB M9 BIGLEAF MAPLE MEADOWS (MOIST TO WET SOIL)  
HB S1 BIGLEAF MAPLE/VINE MAPLE TALUS SLOPES (ACER)  
HB S2 BIGLEAF MAPLE/HAZEL/SWORDFERN (CORYLUS, POLYSTICHUM)  
HB S9 BIGLEAF MAPLE WITH SHRUB DOMINATED GROUND VEGETATION

HC COTTONWOOD, ASH, BOTTOM LAND, OVERFLOW BOTTOM LAND(SAF 222,235)  
HC S1 COTTONWOOD-WILLOW (POPLULUS TRICHOCARPA, SALIX)  
HC S1 21 COTTONWOOD / CICUTA HABITAT TYPE, DAUBENMIRE '70  
HC S2 ASH-WILLOW (FRAXINUS, SALIX)  
HC S9 COTTONWOOD-WILLOW WITH SHRUB DOMINATED GROUND VEGETATION

HL LIVEOAK, CANYON (QUERCUS CHRYSOLEPIS (SAF 249))  
HM MADRONE (SAF 234)  
HM S1 MADRONE/CANYON LIVEOAK (QUERCUS CHRYSOLEPIS)  
HM S9 MADRONE WITH SHRUB DOMINATED GROUND VEGETATION

HO OAK, OREGON WHITE, CALIFORNIA BLACK (SAF 233,246)  
HO G1 OAK/BUNCHGRASS (FESTUCA, DANTHONIA, AGROPYRON)  
HO G2 OAK/RHYZOMATOUS GRASS (ELYMUS, POA)  
HO G3 OAK/ANNUAL GRASS (BROMUS, FESTUCA)  
HO G9 OAK WITH GRASS DOMINATED GROUND VEGETATION  
HO S1 OAK/POISON OAK (RHUS)  
HO S2 OAK/CHEERRY, SNOWBERRY (PRUNUS, SYMPHORICARPOS)  
HO S3 OAK/SERVICHERRY, SNOWBERRY (AMELANCHIER, SYMPHORICARPOS)  
HO S4 OAK/HAZEL (CORYLUS)  
HO S5 OAK/DEERBRUSH (CEANOTHUS)  
HO S6 OAK/BITTERBRUSH (PURSHIA)  
HO S9 OAK WITH SHRUB DOMINATED GROUND VEGETATION

HQ QUAKING ASPEN (SAF 217)  
HQ M1 ASPEN/BUEGRASS (POA PRATENSIS)  
HQ M2 ASPEN/TALL SEDGE (CAREX NEBRASKENSIS)  
HQ M3 ASPEN/SHORT SEDGE (CAREX SCOPULORUM)  
HQ M9 QUAKING ASPEN MEADOWS (MOIST TO WET SOILS)  
HQ S1 ASPEN/HAWTHORN (CRATAEGUS)  
HQ S2 ASPEN/SNOWBERRY (SYMPHORICARPOS)  
HQ S9 QUAKING ASPEN WITH SHRUB DOMINATED GROUND VEGETATION

HT TANOAK (LITHOCARPUS DENSIFLORUS) (SAF 234)  
HT S1 TANOAK/DOGWOOD-CANYON LIVEOAK  
HT S9 TANOAK WITH SHRUB DOMINATED GROUND VEGETATION  
HX HARDWOOD FOREST (NO ASSOCIATION SPECIFIED)

M MEADOW, GRASS-SEGE (SEE MX)

MD DRY MEADOW (WATER TABLE AVAILABLE PART OF THE GROWING SEASON)  
MD 19 OATGRASS MEADOW (DANTHONIA)  
MD 19 11 DRY MEADOW, R6 AG 4-2  
MD 29 TUFTED HAIRGRASS (DESCHAMPSIA)  
MD C9 DRY MEADOW WITH SOME SCATTERED CONIFERS

MM MOIST MEADOW (WATER TABLE AVAILABLE ALL GROWING SEASON)  
MM 19 MOIST MEADOW-TUFTED HAIRGRASS (DESCHAMPSIA)  
MM 29 MOIST MEADOW-TALL SEDGE (CAREX NEBRASKENSIS)  
MM 39 MOIST MEADOW-SHORT SEDGE (CAREX SCOPULORUM)  
MM 49 MOIST MEADOW-REDTOP (AGROSTIS)



MM 59 MOIST MEADOW-SPIKESEDGE (ELEOCHARIS)  
MM 89 MOIST MEADOW-COASTAL: GRASSES, FORBS  
MM 90 MOIST KENTUCKY BLUEGRASS MEADOW, R6 AG 4-2  
MM 88 DEFLATION PLAIN POTHOLES: SLOUGH SEDGE-BROWN RUSH-RED FESCUE  
MM 89 MEADOW COMPLEX: WET-MOIST-DRY POT HOLE  
MM C9 MOIST MEADOW WITH SOME SCATTERED CONIFERS  
MM X1 MALHEUR(04) 10A: SLOPE LESS 15%; MD; MM; MW (MEADOWS)  
MS SUBALPINE/ALPINE MOIST TO WET MEADOWS  
MS C9 SUB-ALPINE TO ALPINE MEADOWS WITH SOME SCATTERED CONIFERS

MT TULE MEADOW (STANDING WATER MOST OR ALL OF GROWING SEASON)  
MT 19 BULLRUSH (SCIRPUS)  
MT 81 11 CAT-TAIL-BULLRUSH/WATER LILLY, WATER-WEED, SIUSLAW  
MT 99 COASTAL SALINE WATER

MW WET MEADOW (SURFACE MOIST OR WET ALL GROWING SEASON)  
MW 19 WET MEADOW-TALL SEDGE (CAREX SPECTABILIS, C. ROSTRATA)  
MW 29 WFT MEADOW-SHORT SEDGE (CAREX SCOPULORUM)  
MW 39 WET MEADOW-RUSH (JUNCUS)  
MW 49 WFT MEADOW-SPIKESEDGE (ELEOCHARIS)  
MW 81 11 VALLEY FILL: SLOUGH SEDGE/SKUNK CABBAGE, RED CURRENT, SIUSLAW  
MW 81 12 SLOUGH SEDGE/WATER LILLY-POND WEED, CAT TAIL, SIUSLAW  
MW 89 WET MEADOW-COASTAL, FRESH WATER (CAREX, JUNCUS)  
MW 99 WET MEADOW-COASTAL, SALT SPRAY INFLUENCE  
MW C9 WET MEADOW, SURFACE MOISTURE, WITH SOME SCATTERED CONIFERS  
MX MEADOW, GRASS-SEDGE (NO ASSOCIATION SPECIFIED)

#### N NON-VEGETATED LAND, LESS THAN 20% VEGETATION (SEE NX)

NA AVALANCHE PATHS, SPARCELY TO NON-VEGETATED  
NA C9 AVALANCHE PATHS WITH A FEW, SCATTERED CONIFERS  
NA S9 AVALANCHE PATHS WITH A FEW, SCATTERED SHRUBS OR 2RUS8

NC CINDERS, LAVA FLOW, MUD FLOW, GLACIAL WASH(LESS THAN 20% VEG)  
NC A1 ALPINE-TREES (WHITEBARK PINE, ALPINE FIR, MTN. HEMLOCK)  
NC A1 11 ALPINE, STEEP CINDERS, SCATTERED WHITEBARK PINE-MT.HEML/HULSEA,WILLAMETTE  
NC A2 ALPINE GRASS-SEDGE (CINDERS, LAVA, PUMICE)  
NC A3 ALPINE JUNIPER (JUNIPEROUS COMMUNIS); CINDERS, LAVA, PUMICE  
NC A4 11 ALPINE,STEPP CINDERS-HULSEA,WILLAMETTE  
NC A9 ALPINE-SUBALPINE CINDERS, LAVA FLOW, MUD FLOW, GLACIAL WASH  
NC C1 ALPINE FIR-WHITEBARK PINE-LODGEPOLE; CINDERS, LAVA, PUMICE  
NC C1 11 ALPINE, PUMICE-LAVA-WHITEBARK PINE/PENSTEMEM,WILLAMETTE  
NC C2 MOUNTAIN HEMLOCK, CINDERS, LAVA, PUMICE  
NC C3 DOUGLAS-FIR - TRUE FIR (PSEUDOTSUGA ABIES), CINDERS, LAVA  
NC C4 DOUGLAS-FIR-OAK (PSEUDOTASUGA, QUERCUS), CINDERS, LAVA  
NC C5 CINDERS WITH LODGEPOLE (PINUS CONTORTA)  
NC C6 GLACIAL/ALLUVIAL FLOWS WITH LODGEPOLE (PINUS CONTORTA)  
NC C9 CINDERS, LAVAS, OUTWASH WITH SCATTERED CONIFERS  
NC H1 MUD-GLACIAL FLOWS WITH ALDER, WILLOW, ASPEN  
NC H9 CINDERS, LAVAS, OUTWASH WITH SCATTERED HARDWOODS  
NC S1 CINDERS, LAVAS, OUTWASH WITH VINE MAPLE (ACER CIRCUNATUM)  
NC S1 11 LAVA FLOWS - CHEILANTHES/VINE MAPLE, WILLAMETTE  
NC S2 CINDERS, LAVAS, OUTWASH WITH SITKA ALDER-WILLOW  
NC S9 CINDERS, LAVAS, OUTWASH WITH SCATTERED SHRUBS

NF FLOOD PLAIN PERIODICALLY DENUDED OF VEGETATION  
NF C9 NON-VEGETATED FLOOD PLAIN WITH SCATTERED CONIFERS

NF S9 NON-VEGETATED FLOOD PLAIN WITH SCATTERED WILLOWS OR SHRUBS  
 NI T1 ICE TUNNEL OR CAVE, TWILIGHT ZONE  
 NI T2 ICE TUNNEL OR CAVE, ZERO LIGHT ZONE  
 NL LANDFORM FAILURE (NATURAL SLUMPS, AVALANCHES)

NM MINE TAILINGS, DREDGINGS, MAN-CAUSED MINIMAL VEGET. POTENTIAL  
 NM C1 MINE TAILINGS, DREDGINGS, LODGEPOLE PINE (PINUS CONTORTA)  
 NM C9 MINE TAILINGS, DREDGINGS WITH SCATTERED CONIFERS  
 NM H1 MINE TAILINGS, DREDGINGS, COTTONWOOD  
 NM H2 MINE TAILINGS, DREDGINGS, ASPEN (POPULUS TREMULOIDES)  
 NM H9 MINE TAILINGS, DREDGINGS WITH SCATTERED HARDWOODS  
 NM S1 WILLOW (SALIX)  
 NM S9 MINE TAILINGS, DREDGINGS WITH SCATTERED SHRUBS

NR ROCKY LAND WITH MINIMAL VEGETATION POTENTIAL  
 NR A1 ROCKY LAND WITH ALPINE TREES (PINE, ALPINE FIR, MTN. HEMLOCK)  
 NR A2 ROCKY LAND WITH ALPINE GRASS-SEDGE  
 NR A3 ROCKY LAND WITH ALPINE JUNIPER  
 NR A3 11 SUBALPINE, STEEP SCORIA/DWARF JUNIPER, WILLAMETTE  
 NR A4 ROCKY LAND WITH ALPINE FORBS (LUTKEA, SAXIFRAGA, HULSEA)  
 NR A9 ROCKY LAND IN ALPINE OR SUBALPINE LOCATIONS  
 NR C9 ROCK WITH SCATTERED CONIFERS  
 NR L1 LEDGE OR CLIFF, SMOOTH FACE, VERTICAL DISTANCE LESS 20 FT  
 NR L2 LEDGE OR CLIFF, SMOOTH FACE, VERTICAL DISTANCE MORE 20 FT  
 NR L5 LEDGE OR CLIFF, BROKEN FACE/LEDGES, VERTICAL DISTANCE LESS 20 FT  
 NR L6 LEDGE OR CLIFF, BROKEN FACE/LEDGES, VERTICAL DISTANCE MORE 20 FT  
 NR L9 LEDGE OR CLIFF, STEEPER THAN 200% (60 DEGREES)  
 NR S9 ROCKY LAND WITH SCATTERED SHRUBS OR BRUSH  
 NR T1 TUNNEL OR CAVE, TWILIGHT ZONE  
 NR T2 TUNNEL OR CAVE, ZERO LIGHT ZONE

NS SAND WITH MINIMAL VEGETATION, SHORELINE OR INTERIOR  
 NT C9 TALUS LAND WITH SCATTERED CONIFERS  
 NS G1 SAND DUNE-WILDRYE-WHEATGRASS (A. DASYSTACHYUM)  
 NS G8 COASTAL SAND DUNE, ROLLING, PARTIAL BEACHGRASS STABILITY  
 NS G9 SAND DUNES WITH SCATTERED GRASS  
 NS N1 11 PACIFIC COAST BEACH, SIUSLAW N.F.  
 NS N2 TRANSVERSE RIDGE, SAND DUNE SYSTEM, NO VEGETATION  
 NS N2 11 TRANSVERSE RIDGE, OCC. WET, WINTER STABLE, SIUSLAW  
 NS N2 12 TRANSVERSE RIDGE, DRY, MOVING SAND, SIUSLAW  
 NS N3 ORLIQUE RIDGE, SAND DUNE SYSTEM, NO VEGETATION  
 NS N3 11 ORLIQUE RIDGE, FORE SLOPE, MOVING SAND SIUSLAW  
 NS N3 12 ORLIQUE RIDGE, PRECIPITATION RIDGE, ACTIVE SAND, SIUSLAW  
 NS N3 13 ORLIQUE RIDGE, PRECIPITATION RIDGE, ACTIVE, THREAT, VEGET, SIUSL.  
 NS N4 PARABOLA RIDGE, SAND DUNE SYSTEM, NO VEGETATION  
 NS N9 OPEN SAND OF ANY DUNAL CHARACTER, NO VEGETATION

NT TALUS LAND WITH MINIMAL VEGETATION POTENTIAL  
 NT A1 TALUS LAND WITH ALPINE TREES: PINE, MTN. HEMLOCK, ALPINE FIR  
 NT A2 TALUS LAND WITH ALPINE GRASS, SEDGE  
 NT A3 TALUS LAND WITH ALPINE JUNIPER (JUNIPERUS COMMUNIS)  
 NT A4 TALUS LAND WITH ALPINE FORB (LUTKEA, SAXIFRAGA, HULSEA)  
 NT A9 TALUS SLOPES IN ALPINE OR SUB-ALPINE LOCATIONS  
 NT H1 TALUS LAND WITH BIGLEAF MAPLE (ACER MACROPHYLLUM)  
 NT H2 TALUS LAND WITH WHITE OAK (QUERCUS GARRYANA)  
 NT H9 TALUS SLOPES WITH SCATTERED HARDWOODS  
 NT S1 TALUS LAND WITH CHERRY-SNOWBERRY, MOCKORANGE (PHILADELPHUS)  
 NT S2 TALUS-VINE MAPLE (ACER CIRCINATUM)

NT S3 TALUS-KLAMATH PLUM (PRUNUS SUBCORDATA)  
 NT S9 TALUS SLOPES WITH SCATTERED SHRUBS  
 NX NON-VEGETATED LAND-LESS 20% VEGET (NO ASSOCIATION SPECIFIED)

S SHRUBLAND (SEE SX)

SC CHAPARRAL, EVERGREEN SHRUBLAND, FOREST ZONE AND NON-FOREST  
 SC 19 SNOWBRUSH (CEANOTHUS) CHAPARRAL  
 SC 29 MANZANITA (ARCTOSTAPHYLOS) CHAPARRAL  
 SC 39 OAK (QUERCUS CHRYSOLEPIS) CHAPARRAL  
 SC 49 MAHOGANY (CERCOCARPUS) CHAPARRAL  
 SC 59 YERBASANTA-SILKTASSER (ERIODICTYON, GARRYA) CHAPARRAL  
 SC 69 SHORT SHRUB (ARCTOSTAPHYLOS NEVADENSIS, CEANOTHUS PROSTRATUS)  
  
 SD DRY SHRUBLAND, SAGEBRUSH, NONFOREST ZONE SHRUBLAND NOT DESERT  
 SD 19 LOW SAGE (ARTEMISIA ARBUSCULA)  
 SD 19 11 LOW SAGE/BUNCHGRASS, R6 AG 3-1  
 SD 19 12 LOW SAGEBRUSH/IDAHO FESCUE, R6 AG 4-2  
 SD 21 BIG SAGEBRUSH  
 SD 21 21 BIG SAGE / WHEATGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 21 22 BIG SAGE / FESCUE HABITAT TYPE, DAUBENMIRE '70  
 SD 21 23 BIG SAGE / NEEDLEGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 21 24 BIG SAGE / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 22 THREETIP SAGEBRUSH  
 SD 22 21 THREETIP SAGE / FESCUE HABITAT TYPE, DAUBENMIRE '70  
 SD 22 22 THREETIP SAGE / NEEDLEGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 22 23 THREETIP SAGE / WHEATGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 29 BIG SAGE (A. TRIDENTATA, A. FRIGIDA, A. TRIPARTITA, A. CANA)  
 SD 29 11 BIG SAGE/WHEATGRASS-FESCUE, R6 AG 3-1  
 SD 29 12 BIG SAGEBRUSH/BUNCHGRASS, R6 AG 4-2  
 SD 29 14 SAGEBRUSH/NEEDLEGRASS (RHYOLITE PUMICE), R6 AG 4-2  
 SD 31 21 BITTERBRUSH / NEEDLEGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 31 22 BITTERBRUSH / WHEATGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 31 23 BITTERBRUSH / FESCUE HABITAT TYPE, DAUBENMIRE '70  
 SD 33 11 BITTERBRUSH/NEEDLEGRASS, PUMICE, R6 AG 4-2  
 SD 39 BITTERBRUSH (FURSHIA TRIDENTATA)  
 SD 49 MOUNTAINMAHOGANY (CERCOCARPUS LEDIFOLIUS, C. BETULOIDES)  
 SD 51 21 HAWTHORN / SNWBERRY HABITAT TYPE, DAUBENMIRE '70  
 SD 56 21 HACKBERRY / CHEATGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 59 HACKBERRY-HAWTHORN (CELTIS-CRATAEGUS)  
 SD 61 21 SMOOTH SUMAC / WHEATGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 61 22 SMOOTH SUMAC / SAND DROPSEED HABITAT TYPE, DAUBENMIRE '70  
 SD 61 23 SMOOTH SUMAC / THREEAWN HABITAT TYPE, DAUBENMIRE '70  
 SD 69 SMOOTH SUMAC (RHUS GLABRA)  
 SD 79 RABBITBRUSH (CHRYSOTHAMNUS)  
 SD 89 SNWBERRY-CHEFRY-ROSA (SYMPHORICARPOS PRUNUS, ROSA)  
 SD 91 RIGID SAGE (ARTEMISIA RIGIDA)  
 SD 91 11 RIGID SAGE/BLUEGRASS SCABLAND, R6 AG 3-1  
 SD 91 21 RIGID SAGE / BLUEGRASS HABITAT TYPE, DAUBENMIRE '70  
 SD 92 LOW SAGE (ARTEMISIA ARBUSCULA) SCABLAND  
 SD 93 SHRUBBY ERIOGONUM SCABLANDS  
 SD 93 21 ERIOGONUM NIVEUM/POA HABITAT TYPE, DAUBENMIRE '70  
 SD 93 22 ERIOGONUM MICROTHESUM/PHYSARIA HABITAT TYPE, DAUBENMIRE '70  
 SD 93 23 BUCKWHEAT FLATS (RHYOLITE PUMICE), R6 AG 4-2  
 SD 99 SCABLAND  
 SD 89 BISCUIT-SCABLAND COMPLEX, SAGEBRUSH  
 SD C9 DRY SHRUBLAND, SAGEBRUSH, WITH SCATTERED CONIFERS



SD X1 MALHEUR(04) 8A:LESS 30%;SD 29;SD 19;SD 39;SD 49;CP G1;CJ S2&S1  
SD X2 MALHEUR(04) 8B:30-70%;SD 29;SD 19;SD 39;SD 49;CP G1;CJ S2 & S3  
SD Y1 MALHEUR(04) 9A:LESS 30% SLOPE;SD 91 11;CJ S8 11;GS 91 11 SCAB  
SD Y2 MALHEUR(04) 9B:SLOPE 30-70%;SD 91 11;CJ S8 11;GS 91 11 SCAB

SM - MOIST (MESIC) SHRUBLAND, FOREST ZONE SHRUBS AND SHRUBLAND  
SM 19 NINEBARK (PHYSOCARPUS)  
SM 29 ALDER SNOW SLIDES (ALNUS, SALIX)  
SM 31 SNOWBERRY SHRUBLAND  
SM 39 CHERRY-MOCKORANGE-SERVICEBERRY-ROSE-OCEANSPRAY  
SM 49 BIG HUCKLEBERRY (VACCINIUM)  
SM 59 SALMONBERRY-BLACKBERRY (RUBUS)  
SM 81 TALL SHRUB (ALNUS SINUATA, RHODODENDRON)  
SM 82 MJD SHRUB (GAULTHERIA, JUNIPERUS COMMUNIS)  
SM 83 SHORT SHRUB (ARCTOSTAPHYLOS)  
SM 84 GORSE (ULEX EUROPAEUS)  
SM 89 COASTAL SHRUB  
SM 99 SCABLAND  
SM 89 BISCUIT-SCABLAND COMPLEX, MOIST SHRUB-ERIOGONUM  
SM C9 MOIST&MESIC< SHRUBLAND IN FOREST ZONE WITH SCATTERED CONIFERS

SS SUBALPINE AND ALPINE SHRUBLAND  
SS 19 ALPINE HEATH-HEATHER (CASSIOPE, KALMIA, PHYLLODOCE)  
SS 29 ALPINE MOUNTAIN JUNIPER (JUNIPERUS COMMUNIS)  
SS 39 ALPINE DECIDUOUS SHRUB (SALIX, SORBUS, SAMBUCUS)  
SS 49 ALPINE SAGE (ARTEMISIA TRIDENTATA VAR. VASEYANA)  
SS 49 11 ALPINE SAGE/ELK SEDGE, R6 AG 3-1  
SS 59 ALPINE LOW BLUEBERRY (VACCINIUM DELICIOSUM)  
SS C9 SUBALPINE SHRUBLAND WITH SOME SCATTERED CONIFERS  
SS X1 MALHEUR(04) 1A:SS 49 11;GS 39 11;GS 12 11;CA G1;FS 59 11

SW WET SHRUBLANDS, SHRUB MEADOWS  
SW 19 WILLOW MEADOWS (SALIX)  
SW 21 21 WHITE ALDER HABITAT TYPE, DAUBENMIRE '70  
SW 29 ALDER MEADOWS (ALNUS)  
SW 31 21 HAWTHORN - ASPEN HABITAT TYPE PHASE, DAUBENMIRE '70  
SW 31 22 HAWTHORN / HERACLEUM HABITAT TYPE, DAUBENMIRE '70  
SW 31 23 HAWTHORN / HERACLEUM - ASPEN HABITAT TYPE PHASE, DAUBENMIRE '70  
SW 39 HAWTHORN MEADOWS (CRETAEGUS)  
SW 81 COASTAL SHRUBS IN A DEFLATION PLAIN  
SW 81 11 DEFLAT,PLAIN,HIGH WATER;WILLOW-WAX MYRTLE,SALAL,PINE, SIUSLAW  
SW 81 12 DEFLAT,PLAIN,HIGH WATER;SALAL-EVERGN HUCKLEB,WILLOW, SIUSLAW  
SW 89 COASTAL SHRUB MEADOWS (SALIX, MYRICA)  
SW C9 WET SHRUBLAND, SHRUB MEADOWS WITH SOME SCATTERED CONIFERS  
SX SHRUBLAND (NO ASSOCIATION SPECIFIED)

TX TUNDRA (NO ASSOCIATION SPECIFIED)

W WATER COVERED AREAS (SEE WX)

WE ESTUARY SYSTEMS - INTERFACE BETWEEN FRESH AND SALINE WATER  
WE 11 BAR BUILT FRESH-SALINE WATER HIGHLY STRATIFIED  
WE 12 BAR BUILT FRESH-SALINE WATER MODERATELY MIXED  
WE 13 BAR BUILT FRESH-SALINE WATER WELL MIXED  
WE 13 11 BAR BUILT, WELL MIXED SALINE: ACTIVE FLOOD PLAIN, SIUSLAW  
WE 13 19 BAR BUILT, WELL MIXED SALINE, TIDAL EXPOSED SANDY BOTTOM

WE 13 29 BAR BUILT, WELL MIX SALINE, TIDAL EXPOSED CLAY BOTTOM  
 WE 13 39 BAR BUILT, WELL MIX SALINE, TIDAL EXPOSED STONY BOTTOM  
 WE 13 59 BAR BUILT, WELL MIX SALINE, TIDAL SALT MARSH (EELGRASS)  
 WE 19 BAR BUILT GEOLOGY - SAND DUNE ESTUARIAN SYSTEM  
 WE 21 DROWNED RIVER: FRESH-SALINE WATER HIGHLY STRATIFIED  
 WE 22 DROWNED RIVER: FRESH-SALINE WATER MODERATELY MIXED  
 WE 23 DROWNED RIVER: FRESH-SALINE WATER WELL MIXED  
 WE 29 DROWNED RIVER ESTUARIAN SYSTEM  
 WE 31 FJORD: FRESH-SALINE WATER HIGHLY STRATIFIED  
 WE 32 FJORD: FRESH-SALINE WATER MODERATELY MIXED  
 WE 33 FJORD: FRESH-SALINE WATER WELL MIXED  
 WE 39 FJORD TYPE OF ESTUARIAN SYSTEM  
 WE 41 TECTONIC: FRESH-SALINE WATER HIGHLY STRATIFIED  
 WE 42 TECTONIC: FRESH-SALINE WATER MODERATELY MIXED  
 WE 43 TECTONIC: FRESH-SALINE WATER WELL MIXED  
 WE 49 TECTONIC (FAULTED) ESTUARIAN SYSTEM

WL LAKE, POND, IMPOUNDMENT, NON-MOVING WATER  
 WL 11 PERENNIAL, NO ICE COVER, LESS 5 ACRES  
 WL 12 PERENNIAL, NO ICE COVER, 5-25 ACRES  
 WL 13 PERENNIAL, NO ICE COVER, 25-100 ACRES  
 WL 14 PERENNIAL, NO ICE COVER, 100-500 ACRES  
 WL 15 PERENNIAL, NO ICE COVER, OVER 500 ACRES  
 WL 19 PERENNIAL WATER, NO ICE COVER DURING AVERAGE YEAR  
 WL 21 PERENNIAL, ICE LESS 30 DAYS, LESS 5 ACRES  
 WL 22 PERENNIAL, ICE LESS 30 DAYS, 5-25 ACRES  
 WL 23 PERENNIAL, ICE LESS 30 DAYS, 25-100 ACRES  
 WL 24 PERENNIAL, ICE LESS 30 DAYS, 100-500 ACRES  
 WL 25 PERENNIAL, ICE LESS 30 DAYS, OVER 500 ACRES  
 WL 29 PERENNIAL, ICE COVER LESS THAN 30 DAYS, AVERAGE YEAR  
 WL 31 PERENNIAL, ICE 30-90 DAYS, LESS 5 ACRES  
 WL 32 PERENNIAL, ICE 30-90 DAYS, 5-25 ACRES  
 WL 33 PERENNIAL, ICE 30-90 DAYS, 25-100 ACRES  
 WL 34 PERENNIAL, ICE 30-90 DAYS, 100-500 ACRES  
 WL 35 PERENNIAL, ICE 30-90 DAYS, OVER 500 ACRES  
 WL 39 PERENNIAL, ICE COVER 30-90 DAYS DURING AVERAGE YEAR  
 WL 41 PERENNIAL, ICE 90-150 DAYS, LESS 5 ACRES  
 WL 42 PERENNIAL, ICE 90-150 DAYS, 5-25 ACRES  
 WL 43 PERENNIAL, ICE 90-150 DAYS, 25-100 ACRES  
 WL 44 PERENNIAL, ICE 90-150 DAYS, 100-500 ACRES  
 WL 45 PERENNIAL, ICE 90-150 DAYS OVER 500 ACRES  
 WL 49 PERENNIAL, ICE COVER 90-150 DAYS, DURING AVERAGE YEAR  
 WL 51 PERENNIAL, ICE 150-210 DAYS, LESS 5 ACRES  
 WL 52 PERENNIAL, ICE 150-210 DAYS, 5-25 ACRES  
 WL 53 PERENNIAL, ICE 150-210 DAYS, 25-100 ACRES  
 WL 54 PERENNIAL, ICE 150-210 DAYS, 100-500 ACRES  
 WL 55 PERENNIAL, ICE 150-210 DAYS, OVER 500 ACRES  
 WL 59 PERENNIAL, ICE COVER 150-210 DAYS DURING AVERAGE YEAR  
 WL 61 PERENNIAL, ICE LONGER 210 DAYS, LESS 5 ACRES  
 WL 62 PERENNIAL, ICE LONGER 210 DAYS, 5-25 ACRES  
 WL 63 PERENNIAL, ICE LONGER 210 DAYS, 25-100 ACRES  
 WL 64 PERENNIAL, ICE LONGER 210 DAYS, 100-500 ACRES  
 WL 65 PERENNIAL, ICE LONGER 210 DAYS, OVER 500 ACRES  
 WL 69 PERENNIAL, ICE COVER LONGER THAN 210 DAYS, AVERAGE YEAR  
 WL 99 INTERMITTENT LAKE, POND, IMPOUNDMENT

WO OCEANS, SEAS, SALINE WATER BODIES  
 WO 19 DEEP WATER, ABYSS

WO 29  
WO 39

OCEAN INTERTIDAL BEACH  
OCEANIC CONTINENTAL SHELF

WR RUNNING WATER - STREAM, RIVER, CREEK, DITCH  
WR 11 PERENNIAL, MAX MO. MEAN TEMP LESS 45F, LESS 1% GRADE  
WR 12 PERENNIAL, MAX MO. MEAN TEMP LESS 45F, 1-3% GRADE  
WR 13 PERENNIAL, MAX MO. MEAN TEMP LESS 45F, 3-6% GRADE  
WR 14 PERENNIAL, MAX MO. MEAN TEMP LESS 45F, 6-12% GRADE  
WR 15 PERENNIAL, MAX MO. MEAN TEMP LESS 45F, MORE 12% GRADE  
WR 19 PERENNIAL, MAX MO. MEAN TEMPERATURE LESS 45F (7C)  
WR 21 PERENNIAL, MAX MO. TEMP 45F-55F, LESS 1% GRADE  
WR 22 PERENNIAL, MAX MO. TEMP 45F-55F, 1-3% GRADE  
WR 23 PERENNIAL, MAX MO. TEMP 45F-55F, 3-6% GRADE  
WR 24 PERENNIAL, MAX MO. TEMP 45F-55F, 6-12% GRADE  
WR 25 PERENNIAL, MAX MO. TEMP 45F-55F, GREATER 12% GRADE  
WR 29 PERENNIAL, MAX MO. MEAN TEMPERATURE 45F-55F (7C-13C)  
WR 31 PERENNIAL, MAX MO. TEMP 55F-65F, LESS 1% GRADE  
WR 32 PERENNIAL, MAX MO. TEMP 55F-65F, 1-3% GRADE  
WR 33 PERENNIAL, MAX MO. TEMP 55F-65F, 3-6% GRADE  
WR 34 PERENNIAL, MAX MO. TEMP 55F-65F, 6-12% GRADE  
WR 35 PERENNIAL, MAX MO. TEMP 55F-65F, GREATER 12% GRADE  
WR 39 PERENNIAL, MAX MO. MEAN TEMPERATURE 55F-65F (13C-18C)  
WR 41 PERENNIAL, MAX MO. TEMP 65F-75F, LESS 1% GRADE  
WR 42 PERENNIAL, MAX MO. TEMP 65F-75F, 1-3% GRADE  
WR 43 PERENNIAL, MAX MO. TEMP 65F-75F, 3-6% GRADE  
WR 44 PERENNIAL, MAX MO. TEMP 65F-75F, 6-12% GRADE  
WR 45 PERENNIAL, MAX MO. TEMP 65F-75F, GREATER 12% GRADE  
WR 49 PERENNIAL, MAX MO. MEAN TEMPERATURE 65F-75F (18C-24C)  
WR 51 PERENNIAL, MAX MO. TEMP GREATER 75F, LESS 1% GRADE  
WR 52 PERENNIAL, MAX MO. TEMP GREATER 75F, 1-3% GRADE  
WR 53 PERENNIAL, MAX MO. TEMP GREATER 75F, 3-6% GRADE  
WR 54 PERENNIAL, MAX MO. TEMP GREATER 75F, 6-12% GRADE  
WR 55 PERENNIAL, MAX MO. TEMP GREATER 75F, GREATER 12% GRADE  
WR 59 PERENNIAL, MAX MO. MEAN TEMPERATURE GREATER 75F (24C)  
WR 99 INTERMITTENT STREAMS, RIVERS  
WX WATER COVERED AREAS (NO ASSOCIATION SPECIFIED)





